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Personnel Management & Methods

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AUTOMATION Need Not Mean Strife
(see page 19)

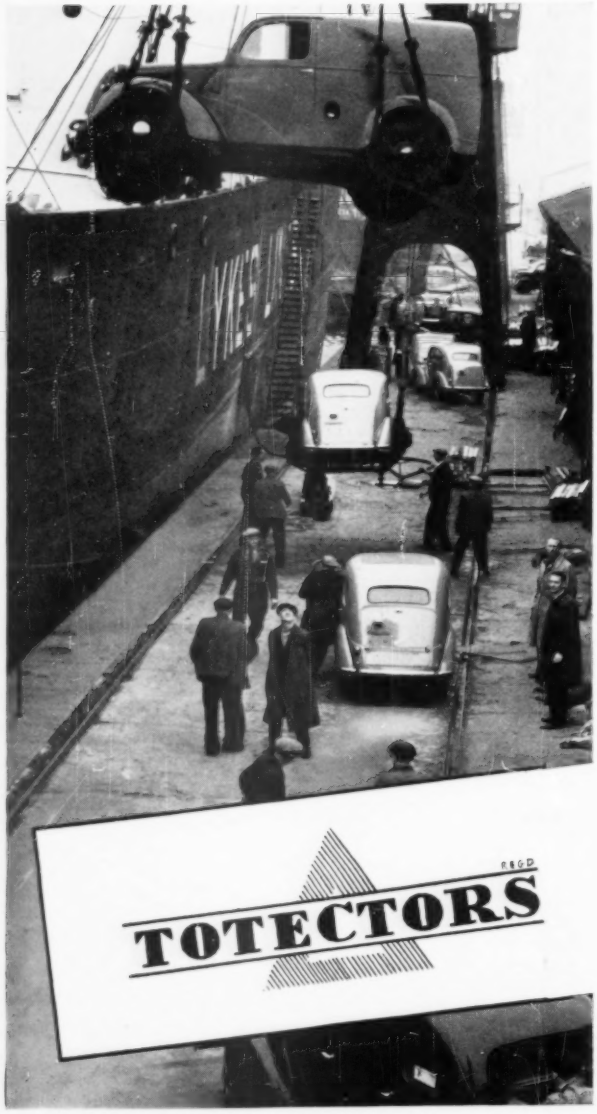
★

***Plan* Your Factory for Better Working**
(see page 24)

★

Facts About Women at Work
(see page 35)

Protect their feet and take a load off your mind!



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JULY 1957

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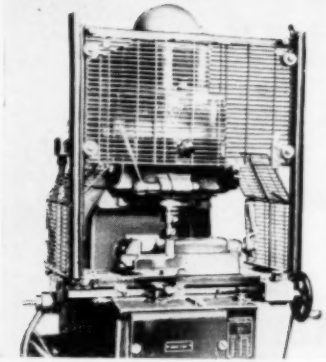

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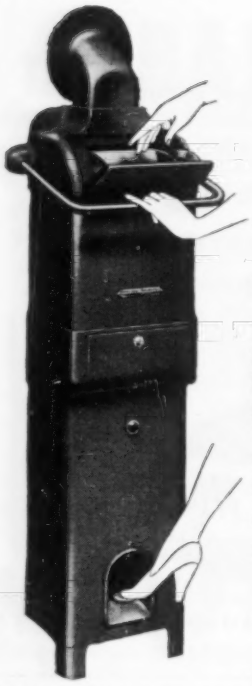

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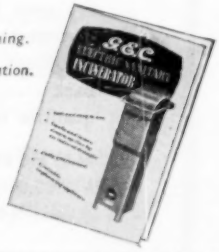

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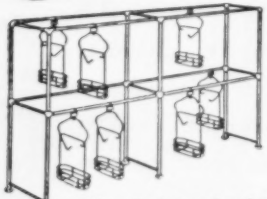

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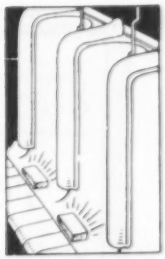

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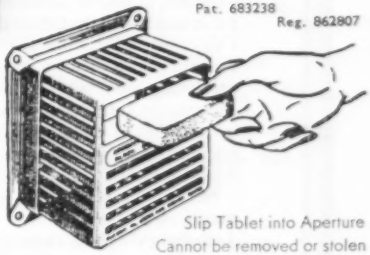

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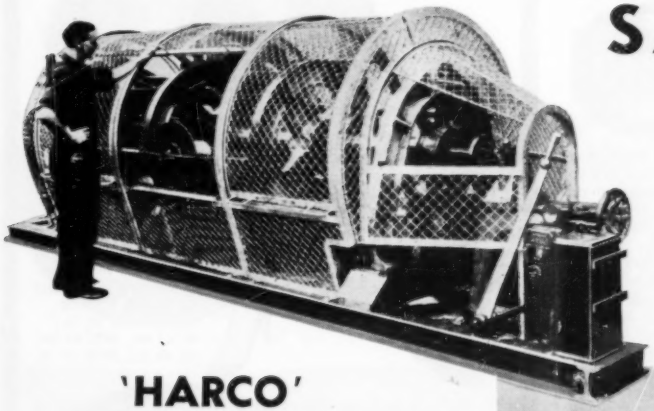

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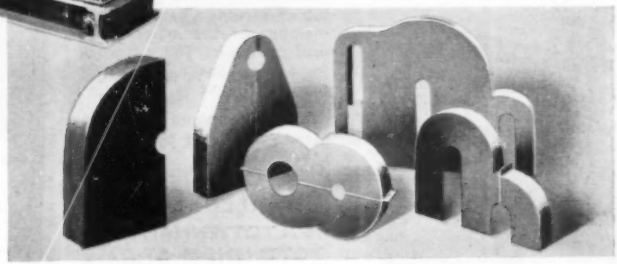

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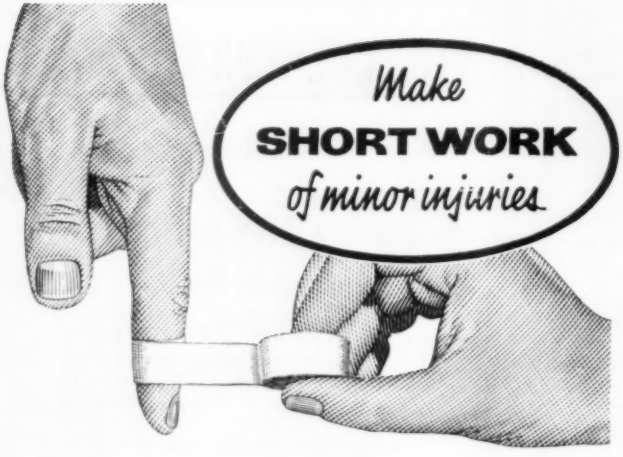

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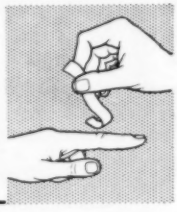

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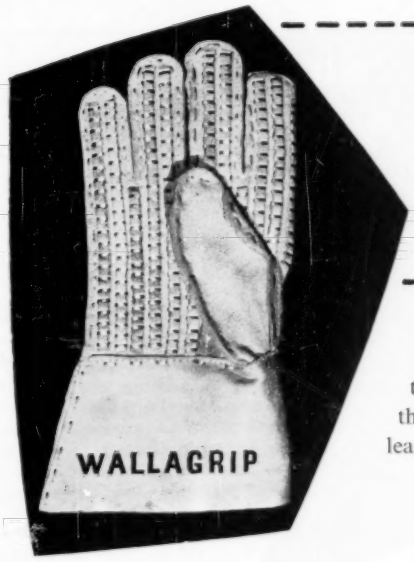

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floor

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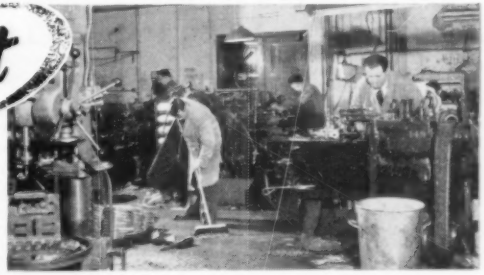

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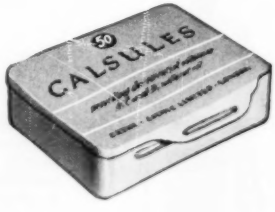

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Point Counter Point

Challenging Ideas & Events in Personnel Management

JOBS FOR ALL FOR EVER

SINCE the days of Malthus when economics was dubbed "the dismal science", economists have been given to uttering prophecies that range from the discouraging to the downright alarming. Optimism is not part of their stock-in-trade; to some, even to suggest that things may not be as bad as they seem is close on heresy.

What, then, would such prophets make of the views of Mr. H. P. Barker, chairman of Parkinson and Cowan Ltd., who at a recent B.I.M. conference expressed the belief that "full employment, both of workpeople and professional men, is with us for ever?"

"Apart from some cataclysm such as war", said Mr. Barker, "I cannot see any likelihood that general unemployment will ever recur—first, because the rate of generation of new techniques is developing commercial opportunity in a way never before existing and, second, the needs of mankind for capital equipment are so powerful and so clearly seen that it is unimaginable to me that the needs and the men to fill them could ever be separated".

If the new technology claims any victims, it will be firms not the workpeople, according to Mr. Barker. To avoid extinction, top management would have to bear in mind two paramount trends: the significance of a permanent state of full employment and a permanent state of competition for brains; second, the need to create working environments in which workpeople would want to participate.

In the two years that people have been talking and writing about automation, it has been assumed that if any group suffered from its effects that group would be workpeople. Mr. Barker's remarks, if valid, put the matter into a totally new perspective. It will be the weak and unimaginative firms that will go to the wall.

In directing public attention to the supposed threat to wage-earners lurking behind automation, trade union leaders have done a fine P.R.O. job for the interests they represent. But, as the Director-General of the International Labour Organisation points out on page 20 of this issue, "most of the industries which have gone farthest with advanced mechanisation have been those in which employment is expanding considerably".

FUTURE SATELLITES

ANOTHER popular notion about automation is that when in full swing it will doom the small firm to extinction. This point was most ably answered in a recent talk (see page 22) by Mr. John Sargrove who is technical director of Automation Consultants and Associates Ltd. "Smaller businesses", he says, "will have their place in the automation era as suppliers of maintenance services to the automated giants". He cites the example of the garage and the car manufacturer.

So far as one can make predictions at this stage, then, it would seem that firms will not go out of existence simply because they are small or because they do not introduce automated plant. The victims—and it seems almost trite to say it—will be those inefficient firms who turn their backs on the new technology without bothering to find out if it can help them.

MESDAMES BUTTERFLY

THE *Manchester Guardian* reports that employers in the East Midlands are suffering from an attack of butterflies, the butterflies in this case being women who tire of making brassieres and move to factories where they can make blouses instead. Others, tired of making frilled fancies, change to infants' wear—and so on, and so on.

These girls are called butterflies because they flit from job to job every few weeks after tiring of making "the same old thing". Most of them are

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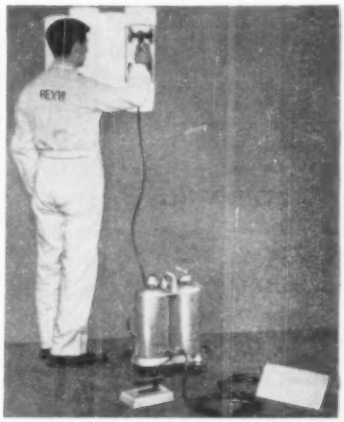

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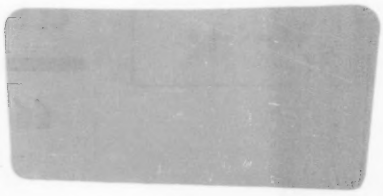

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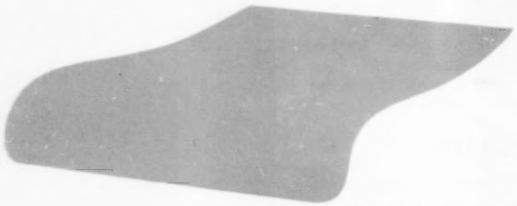

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Point Counter Point

skilled machinists, earning from £10 to £14 a week, and because they keep changing jobs employers are unable to expand production.

The National Union of Manufacturers in Nottingham say that everything is being done to make the girls stay. Working conditions are made most attractive and all sorts of incentives are offered including bonuses, parties and outings. But nothing keeps the girls in one job for long.

One employer is said to be offering free hairdressing and beauty treatment to keep girls at his factory, but, says the *M.G.*, other manufacturers fear that this will lead his employees to boast about their better conditions and so persuade others to leave their jobs to join them.

Two things strike one about all this. First, if hairdressing and beauty treatment is the panacea, then it is up to all the manufacturers concerned to provide it. Of course, in that event all the firms would once more be on an equal footing, as it were, and no doubt the butterflies would again spread their wings.

Second, and more important, this may be one of those personnel problems to which there is just no solution. It is sometimes just as wrong to assume that everything can be solved as to despair and think that nothing can be done. Here we have a prosperous district with over-full employment, a trade where conditions are good and wages very high indeed. Short of introducing a direction of labour order or of manufacturers varying their products, the girls will probably continue to keep moving while the conditions last. After all, what is a headache to the personnel manager is often an idyllic state of affairs to workpeople.

TRAINING FOR COMMERCE

NOT before time, Britain now has a National Apprenticeship Scheme for Commerce. It has been drawn up and introduced by the Association of British Chambers of Commerce to provide "a comprehensive combined theoretical and practical training against a standard which will have national recognition". To employers it will improve their chances of getting suitable staff for the commercial side of their business; to boys and girls leaving school at 16, the Scheme holds out the promise of a worth while career.

Introducing the scheme a few weeks ago, the Hon. R. A. Balfour, president of the Association, said:

"There has been too much readiness to think in terms of the shop floor, the laboratory and the drawing office rather than the needs of the business organisation as a whole. The office no less than the shop floor has its contribution to make . . . The achievements brought about by the laboratory can be lost unless the commercial side is maintained at an equal pitch of efficiency".

The Scheme is available both to boys and girls leaving school at 16 and to young people already in a commercial job. It is based upon a Deed of Apprenticeship under which an employer and apprentice mutually undertake a five-year period of education and training. Entrants should have G.C.E. at "O" level in three prescribed subjects, but under certain conditions boys and girls without the G.C.E. will be allowed to enter. Full details can be had from The Association of British Chambers of Commerce, 14 Queen Anne's Gate, Westminster, London, S.W.1.

IS IT READABLE?

THERE is an estimated 1,200 house journals in Britain with a readership of 10,000,000 and a potential readership, including wives and children, of 22 million. On the production of this literature something like £3½ million is spent each year.

These were some of the facts and figures given at the recent annual convention of the British Association of Industrial Editors at Harrogate, and a number of suggestions on how best to use this communication colossus were forthcoming. One of the most interesting prescriptions came from Mr. A. C. Durie of Shell-Mex and B.P. Ltd, who suggested that editors could learn a lot from the approach of the *Daily Mirror* and *Daily Sketch*.

Earlier in the year at another conference of magazine editors—held by the I.W.S. at Brighton—Mr. B. Samain of Richard Thomas & Baldwins was no doubt thinking along the same lines when he pointed out that many house journals were read by employees' families and that those families were becoming more and more picture-minded. He thought there was a danger of the magazine becoming too stereotyped—the pocket-sized format, two-colour cover, double column layout and so forth. Surely we could get something more exciting for the same cost.

Both are quite right, but to jazz up a house journal *á la* Popular Press will not necessarily make the unreadable

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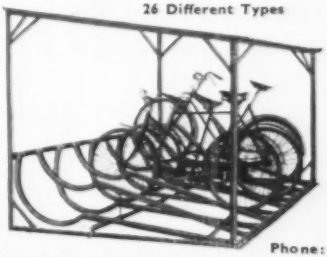

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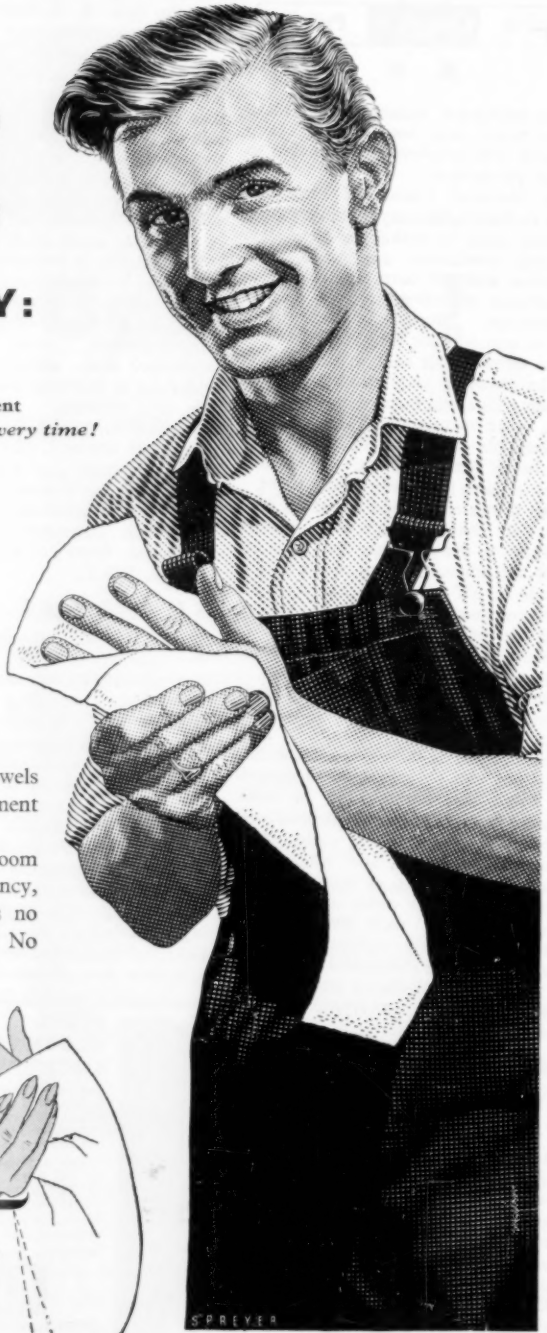

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readable. It is far more important to know what really interests people and couple that with a viewpoint courageously stated. No journal ever exploited better the "popular" pictorial format than *Picture Post* in its last years and, reluctantly, one must add "Look what happened to *Picture Post*."

This, of course, is no excuse for a house journal looking like a learned paper to the Royal Society printed as a pamphlet. But contents should come first. "News" said Northcliffe, "is what people are talking about." And in the smaller world of the factory, this still holds good. It might in fact be a good idea if every house journal editor had an informal talk with the personnel manager before each issue, even though the latter does claim that he is the last person ever to hear about anything.

WHAT SHALL WE CALL IT?

"HOW the House Journal got its name". The subject would have suited Rudyard Kipling, although the term, "Just So Story", is hardly applicable to the desperate thought which went into choosing *Corn* as the title of the Brown & Polson Group bi-monthly staff magazine. The name has caused a lot of comment since the first issue appeared last October, but the company had the best of reasons for choosing it.

When the management decided to launch a staff journal they were fortunate in having an editor ready and eager to start work. Geraldine Barry already had two years' experience in journalism, 4½ years' secretarial experience in publicity and another two years with the firm as personal assistant to the Group personnel manager. She spent that time getting to know the firm, its work, its policy and, most important of all, its workpeople. All that was needed finally was a name—something short, succinct and with that vital quality, impact.

Since the journal was for employees that was the obvious place to look for a title; so the firm organised a competition with a £5 prize for the winner and £1 for the runner-up in each factory. There were 136 entries, most of which displayed a zest and imagination that augured well for both reader interest and editorial contribution.

For ingenuity bordering on the zany, top marks go to "The March of Starch", "A-maize-ing Times", "Custard Pie" and "What's Cooking". "Grist" had impact but was too harsh and unpleasant a word to succeed. "Cornucopia" was out and away the favourite of the race, but in trying so hard to fuse the logical with the witty—e.g. "Corn Gleanings", "The Unicorn", "Corn Exchange", "Corn and Chaff" and "Corn off the Cob"—most entries lost the necessary spontaneity.

A large number of entries incorporated the word "corn", the reason being of course that this is the raw material of the firm's main product, starch.

Surprisingly enough only one person submitted "Corn", probably because of the fear that it would cause more laughter than respect. The management disagreed; they are convinced that they now have a title which, once heard, cannot be forgotten, which embraces the work of the whole firm and which is decidedly different. It may lack a certain dignity but that is probably why it appeals to the employees. As for the music hall inference, the editor is determined that no one shall be able to level that charge against the contents. Her record to date is excellent: already *Corn* has carried off a certificate of merit in this year's BAIE national house journal contest—after only three issues.

"What a blessing you were wearing your safety boots!" 'e said.

WONDER WORKING

"DO It Yourself" is of course not confined to the domestic arena. A notable example from industry concerns the Bristol furniture firm, Caisley & Son, whose works were gutted by fire on April 28. Mr. Caisley and his 50 employees determined to save the firm and their jobs, rebuilt the plant in a matter of weeks.

Said Mr. Caisley afterwards: "People say this sort of thing is impossible, but I think we have proved conclusively that as long as you get a really combined effort, you can work wonders".

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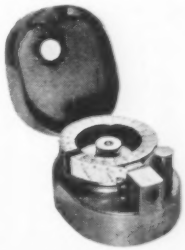

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Sometimes it may be wise to rush in where angels—whether Socialist or Conservative—are about to tread. On many occasions in the past when legislation has been in prospect, we have advised employers to "wait and see". The statements that have now been published on behalf of both the leading political parties make it perfectly clear, however, that any employer of labour who has not so far made proper retirement provision for all his permanent employees would be well advised to install an adequate pension scheme without delay.

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AUTOMATION Need Not Mean Industrial Unrest

By DAVID A. MORSE

Director-General, International Labour Organisation

Uses of automation have come about far more quickly than most qualified observers expected and we have no real means of knowing how far the changes will go, says the the Director-General of ILO. Even so, for the reasons appearing in this article, he sees no cause why we need be afraid of technological change.

AUTOMATION is only one form of technological change, but it is certainly the most discussed and controversial change to occur for many long years. It is therefore worth trying to answer the question, "What is automation?"

Three fundamental developments account for nearly everything that is commonly regarded as falling under the heading of automation. The first, continuous automatic production or integration, is often called "Detroit automation" in honour of the city where it got its start. The second, often termed feed-back technology, is based on the use of built-in automatic devices which compare the way work is being done with the way it ought to be done and make automatically any adjustments that may be necessary. The third is best known as computer technology and covers the use of general and special purpose computing machines capable of recording and storing information and of performing both simple and complex mathematical operations on such data.

Clearly, automation is not new. What is new behind automation is the new way of thinking about production processes, even of envisaging a fully automatic factory in which a computer integrates and controls the separate automatic production lines. The fact that today an imaginative scientist can improvise, in principle, mechanisms capable of carrying out almost any task is of revolutionary significance.

It is this threat that lies behind the fear that we have created an uncontrollable force imperilling our society and even that we are in danger of being destroyed by our own creations.

Another new element in automation is its potential to speed up the rate of technological change in industry, but perhaps the most significant novel feature is that automation makes it possible to do many things and to produce many goods and services which were simply not feasible in the past. Atomic research could never have reached its present stage without automatic devices and controls. The huge oil refineries, chemical plants and steel works of today could not be operated without automatic controls. Ingredients formerly too toxic to be handled safely can now be used. And with advanced computer technology it is possible to assemble and analyse information that was once prohibitively expensive to collect. Too often this novel aspect of automation is overlooked.

Mr. David A. Morse. "There is also a danger of too slow progress in automation".

The key to the labour and social impact of automation and other technological innovations is the rate of speed at which they are introduced and at which they spread from one undertaking and industry to another and from one part of the world to another. If the changes of the last 50 years had been compressed into the space of five, there would have been economic and social chaos. If the changes resulting from present technological developments were to take place within the same limited period of five years, there would be grounds for grave concern. At the moment we have no real mean:

of knowing how fast the changes will come and how far they will go.

Few have challenged the assumption that automation and other developments will be gradual. Yet in the interests of caution, it might be noted that only a few years ago automation and atomic energy were both commonly regarded as practical problems for the next decade, not for this one. **Things have happened far faster than most qualified observers in both fields expected.**

The need is to study what is happening, to try to anticipate the impact in the social field and to plan ahead.

To industry, of course, automation holds out certain clear-cut advantages. Some of these are financial, the most important being the reduction of direct labour costs. Other advantages are technical, and here the most important probably is that automation makes it possible to produce better quality goods and to work with constant precision and within narrow specifications.

Because of these financial and technical advantages, and leaving aside any social advantages which might also play a part in managerial decisions, many experts anticipate that industry will be forced into more and more automation at a faster and faster pace. And once automatic devices come into use within any one industry, they tend to spread. Competition among firms and other pressures for industrial efficiency oblige more and more undertakings to introduce automation. Again, the more that is learned about automatic devices, the more uses are devised for them.

New Shapes

Automation will affect the shape and size of plants as well as their location. New one-storey plants may replace old multi-storey structures and cover more ground space. With atomic energy and automation taken together, the employer would be freer to choose plant sites which may disrupt some commodities and give new life to others. It may be, too, that these changes will have international implications and create shifts in the international location of industry. It has already been pointed out that the new technology demands a world market and will exert tremendous pressure against artificial trade barriers.

Past experience shows no reason to believe that technological innovations lead to a decrease in the global volume of employment. So long as improvements are introduced against a background of high levels of economic activity and a continuing rate of economic expansion, the maintenance of the general level of employment is not likely to be a serious problem provided the necessary occupational shifts can be made. **In past years most of the industries which have gone farthest with advanced mechanisation have been those in which employment has been expanding considerably.**

I would add, however, that, according to many observers, *the short-run impact of automation and analogous developments may be greater on white-collar employment than on manufacturing employment.* The displacement of the routine clerical worker by the computer is forecast. Outside of certain manufacturing industries, the greatest potential for automation lies in office work and is already being rapidly

What Automation is now doing

- *A recently developed automatic filling machine packages cans with four ounces of semi-solid baby food "untouched by human hands" at the rate of 800 per minute. The worker's function is limited to manual push button starting and stopping, observing and repair and maintenance of the machine.*

- *Fourteen glass blowing machines, each operated by one worker, now produce 90 per cent of the glass light bulbs used in the United States and all the glass tubes used in radio and television sets (except picture tubes).*

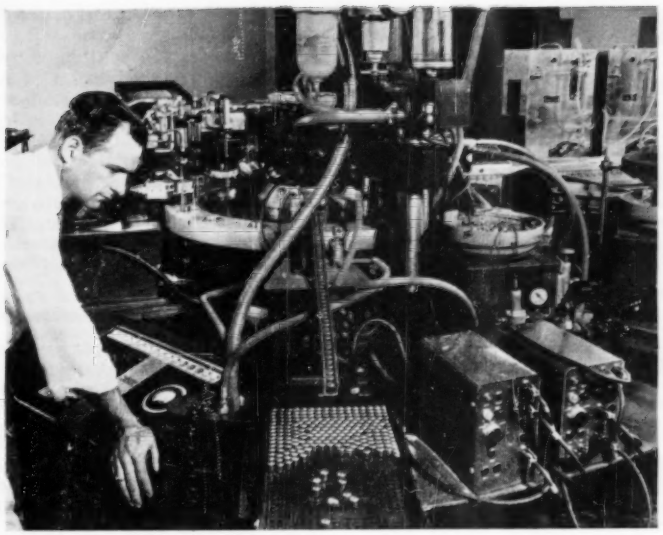
- *Machines now print, etch or stencil on a board what were previously hand-wired circuits. Machines make the components, attach them to the printed circuit boards, make the parts and assemble them. Once the components are fed into a machine, complete radio sets can be produced. On one radio assembly line, turning out 1,000 radios a day, two workers now produce more than 200 workers did under the old method.*

- *A food products company in the U.S.A. has developed a machine which assembles in about one minute the same number of parts that it normally took one worker one full day to assemble.*

- *In the Ford Cleveland plant one man runs a transfer machine performing more than 500 machine operations, whereas conventional methods required 35 to 70 men. Formerly 400 workers took 40 minutes to turn out one engine block; now 48 workers complete a block in less than half that time.*

- *In Russia, a fully automatic plant makes aluminium pistons for heavy truck engines. No human hands intervene throughout the process and even waste metal is removed from the machines automatically.*

- *At the Esso Petroleum Refinery at Fawley, near Southampton, six men per shift handle equipment which distils 5½ million gallons of crude oil per day.*



This machine assembles and checks portable radio batteries with greater precision than any human can do the job.

introduced in activities in which data-processing plays an important part.

On the whole the trend of opinion among employers and trade unions is optimistic but cautious. But in trade union circles in particular there is an evident fear that a saturation point may be reached. These apprehensions are real and widespread and the only way in which they can be countered is by concentrating on the facts—in each country, in each industry, in each undertaking—by giving sustained attention to the changing employment situation, and by careful planning not only to promote full employment and economic growth but also to foster the social policies which must underlie and accompany such growth.

Let us not be afraid to admit that technological progress holds out great savings in labour, either in the form of higher output, shorter hours, unemployment—or in a combination of the three. The problem is to combine the first two in such a way as to avoid the third. *Yet for many countries the main danger of unemployment may arise not from too rapid but from too slow progress in automation.*

A look at the world today suggests that a redefinition of skill is long overdue. Do the classical concepts of unskilled, semi-skilled and skilled workers, largely taken over from a static, medieval society of guilds, really correspond to the needs of the dynamic fast-changing industrial society of today? Will the nineteenth century concept of salary-earning office employees and wage-earning factory workers make sense in the automated factory of tomorrow? The skill of one era is dead and the skill of a new one is just emerging.

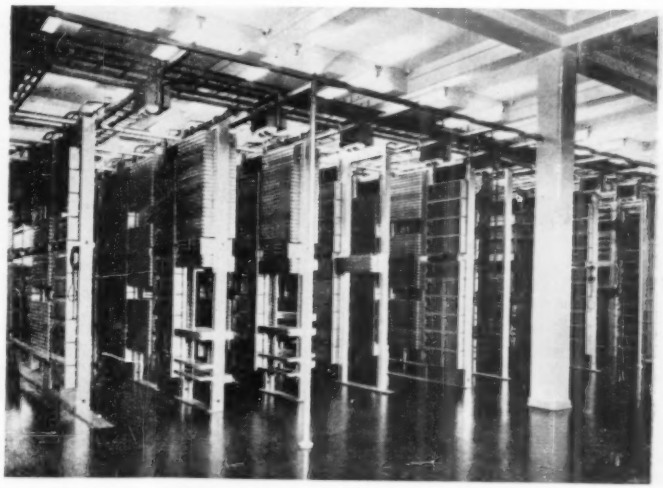
It has been predicted that unskilled workers, as we know them today, will disappear and that semi-skilled workers will become skilled workers. Others hold that semi-skilled workers will become the key men of the automatic world. It is too soon to tell which will be the case, but it is generally agreed that the need for skilled workers, technicians and engineers is likely to expand. But the character of their work will change beyond recognition. The technicians and skilled men of tomorrow will have to be more flexible, more versatile, more knowledgeable—men who can work across industrial and occupational lines. Above all, the character of managerial and supervisory work is changing and our concept of the skills needed for such work must change too and in good time.

The fear of change is natural, but it is my experience that today there is no need to regard industrial disturbance and social unrest as an inevitable consequence of technological change-overs.

The essentials of wise policy seem to me to be clear: careful advance planning by management; full consultation with the workers before plans are finalised; proper safeguards to prevent or minimise displacements and careful timing.

Summing up, I would point out that, despite recent controversy about automation and analogous developments, there is far wider agreement on many points than might be expected. These points of agreement are:—

1. These developments make it possible to produce many goods and to



A fully automatic telephone exchange in Denmark. Picture shows the selection hall where each rack holds contacts of 1,000 subscribers. An exchange with 5,000 to 10,000 subscribers is attended by one man during the day.

do many things that could not have been produced or done before.

2. They have given great impetus towards higher labour and living standards.

3. They offer great promises for industrially backward countries.

4. They do not of themselves create general unemployment.

5. They do create new opportunities and new skill requirements.

6. Like all technological innovations, they cause labour redistribution within firms, occupations and industries.

7. They may create in some instances specific transitional problems and in particular problems of re-employment, in certain localities or for groups of workers or individuals.

8. They have a direct and immediate impact on wages and working conditions.

9. They have equally direct and immediate implications for the structure of social protection.

10. They thus have serious implications for management, for trade unions and for governments and impose on each of them new tasks and new responsibilities.

The greatest need of all, in my view, is for reinforcing efforts to promote labour-management co-operation in planning, introducing and carrying through technological changes. The principles of co-operation are simple and familiar and can be translated into rules of practical action in each undertaking. Their detailed application, will, moreover, strengthen the structure and widen the area of co-operation between both groups.

Automation Will Not Kill The Small Firm

"SMALLER businesses will have their place in the automation era as suppliers of maintenance services to the automated giants", said John A. Sargrove, technical director of Automation Consultants and Associates Ltd., in a recent talk to the London branches of the Institute of Commercial and Industrial Managers and the Institute of General Managers.

Mr. Sargrove then put the economics of automation into perspective for companies of various sizes. He explained that 100 per cent automation can only be considered practicable in the military field, where it takes the form of guided missiles and similar robot devices. In industry, even the largest firms will be unable to convert or develop more than 80 per cent of their plant to fully automatic operation. Any dreams (or nightmares) of having the managing director pressing a button in the morning and leaving the rest to undefinable automation are therefore still as unrealistic as they have ever been, and this revelation, though, perhaps, not quite unexpected, would provide some reassurance for everyone in the manufacturing industries. Firms of medium size would, in Mr. Sargrove's view, reach degrees of automation between 60 per cent and 80 per cent.

"Will there be any justification for the continued existence of the engineering firm with an annual turnover of £10,000 to £30,000?" asked Mr. Sargrove, and, in answering this question in the affirmative, he declared that such firms would become the handmaidens of the larger firms, who would employ automation equipment on a vast scale.

He gave an example of the possible future relationship between small and large firms, which, though familiar to everyone, is probably not often considered as such: automobile service stations are already today supplementing and providing a vital factor for the activities of automated car manufacturers; not, it is true, by contributing to the original manufacturing processes, but by maintaining the products of automation to a degree and on a scale which justify automation in the first place.

Service station employees are more skilled than automation operatives, and more adaptable. Such extra skill, specialised knowledge acquired from suppliers of automation equipment, willingness to be on the job for 24 hours a day (like ship's engineers), so as to eliminate every avoidable minute of expensive down-time, and juxtaposition to large automated manufacturing units are prerequisites of the smaller businesses whom Mr. Sargrove considers the "general practitioners" of the automation age.

With these new duties must come new management attitudes. When all members of a firm must be technical experts, their pay must not only be adequate, but must provide an incentive for ability; when resourcefulness and preparedness are essential day and night, the idea of payment by the hour is no longer realistic and salaries instead of wages become the natural method of payment on the shop floor.

"Versatility and willingness to change are essential in managers as well as in the less well-informed, humbler citizen. If managers are sometimes reluctant to face changes, floor men can be forgiven if they have similar aversions from which, however, they will have to be educated away".

Mr. Sargrove stated these views as an engineer, not as a manager, but using knowledge he has gained in British industry and in industry abroad, mainly in Germany. Trades unions, too, must understand the new requirements, but it remains a task for management to persuade trades unions to these ends.

G. WITTEMBERG

The American Lines in New York have an electronic equipment which automatically reserves seats on aircraft. The equipment, which is "consulted" 35,000 times a day, reports immediately on the number of seats available on aircraft on any line.

Record Attendance at Safety Conference

Top Management Must Take Active Interest, Delegates Told

THE growing realisation in industry of the importance of safety planning was clearly borne out by the record attendance at this year's RoSPA National Industrial Safety Conference. Seven hundred and fifty delegates assembled at Scarborough on May 31 for a week-end's intensive appraisal of their jobs and how best to do them.

One of the first significant points to emerge was the need to overcome apathy and resistance at all levels. On this subject the opening speaker, Mr. Nigel Hannen, director of Holland & Hannen and Cubitts Ltd., delivered the first broadside of the conference. Top management, he argued, must not only take responsibility; it must *want* to take it, playing its part in a concerted campaign with sincerity and enthusiasm. Only then would the interest created be transmitted right down through the lower ranks of management to the man on the job.

Legislation, he continued, might be necessary, but it was in no way an answer to the problem. An industrial police force would always be regarded with suspicion.

Safety Showmanship

Mr. Hannen emphasised that safety depended upon every employee being continually alive to the risks of a particular operation, and being aware that management knew the importance of that fact. This was carried a stage further by another speaker, Mr. Bernard A. Inshaw, head of RoSPA's Industrial Safety Division. Addressing the delegates on the subject of "Safety Showmanship", he said that one of the finest methods of selling an idea or attitude of mind was by example. It was imperative for every member of the organisation to be a member of the sales team, and the whole of line management must have the sincere belief that safety was part of their job. Giving a number of examples of firms which believed in making sure that their workers knew what was going on and who exactly was on the safety committee, he added that it was vital at the beginning of any safety campaign or course for the safety officer to be introduced to employees by someone from top management to show that the campaign had the management's full support. He repeated the phrase, "top management", and added that no lower rank would do.

Responsibility rested, too, with the safety officer for keeping close liaison with the workers, especially the younger and newer recruits, and Mr. Inshaw went on to discuss the propaganda value of works magazines and exhibitions. Careful thought must be given to the preliminary planning of these ventures and the organisers had to make sure that the result was compelling and attractive. Safety as a news item had many rivals, but if the human angle was present people would always take notice.

Reported by
DAVID JUDGE

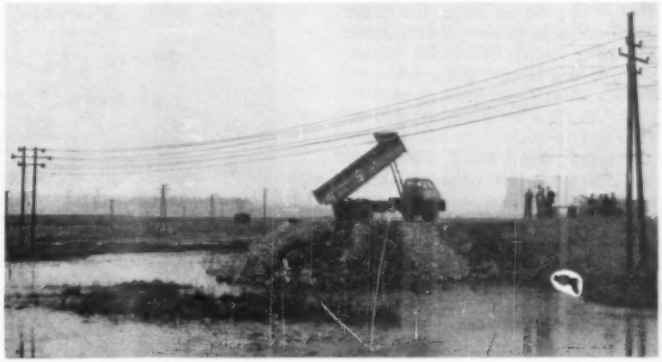
In closing he drew attention to this year's National Industrial Safety Week, to be held from September 30 to October 5, with the theme, "Guard your Hands". At this point the audience was given a lesson in the effective use of publicity. As the speaker sat down a bevy of attractive young ladies entered the hall and began distributing propaganda material for Safety Week. Dressed in military style with suitable modifications, each was a feminine version of "Sergeant RoSPA", the guardsman motif of the campaign.

This publicity material (which is now available from the Service Dept., RoSPA, 52 Grosvenor Gardens, London, S.W.1) consisted of posters, leaflets on hand hazards, correspondence labels, lapel tags, drip mats and a fortune-telling booklet entitled "Your future is in your hands". In addition there are banners which will be made to order and some blocks or cartoons pinpointing the safety message.

If safety has its rivals, so too has a conference. In this case it was the weather, and it was something of a sacrifice for delegates to make their way into the Spa Theatre where the conference was held, instead of walking along the delightful Scarborough sands or merely lazing in the most glorious sunshine to come Britain's way for a long time. But they were compensated for their sacrifice by the immense value of the working sessions which ranged over a wide field of interests, including safety in welding, the safe operation of troughed belt conveyors, the fundamentals of fire prevention, and the legal requirements in scafford erection.

There was also a fascinating display of safety equipment in the trade exhibition close by. The number of firms taking part broke another record for the occasion, and we shall be giving readers a selection of the most interesting items seen there in our next issue.

The conference was opened by the Mayor of Scarborough, Alderman R. Percy Robinson, and was under the chairmanship of Mr. Albert Elson, M.B.E., who retired recently from his post as Industrial Safety Consultant to Samuel Fox & Co. Ltd.



This remarkable picture shows one of the unpredictable tragedies safety officers are up against. As it was being tipped, this lorry touched an overhead line. The driver was electrocuted; another man died of burns. *(Picture, courtesy M.o.L. Information Dept.)*

The author against a background of the Belvedere, Kent, distribution depot which his company built last year for W. & R. Jacob (Liverpool) Ltd.

TAILOR-MADE

For Easier, Happier Working

By COLIN A. SAMUELS

Managing Director C.A.S. (Industrial Developments) Ltd.

Careful pre-planning of your factory means solving your problems before they arise. With production and welfare considerations side by side in the plan, your factory will, be a "perfect fit" for efficiency.

JUST as our local housing authorities have found a well-planned, easily run, modern home tends to be a better kept home, so the factory that is tailor-made for its function with proper traffic lanes, machine clearance and adequate lighting is a cleaner and sweeter place in which to work.

When care and attention have been taken to make industrial premises look fresh and attractive, and as many as possible of the dirt traps have been obviated in the design stage, the effect upon its occupants is virtually the same as that of a newly-decorated house. People in a new factory get a new outlook—they *want* to keep it clean.

If this reaction is to be enjoyed to the full and is to benefit the worker and the management alike, it must be planned for from the very beginning. Once production lines and processes have been established in their right sequence, thought must be given to the swift, smooth flow of the product from process to process. The more times an item has to be handled, the more mess it leaves in its wake—in the form of packing material, swarf, oil and dust. Which means that not only must the managing director and executive staff of the client company be consulted, there must be discussions with the foreman and the cleaner in the old premises—they are the people who know where the frustrating bottlenecks are, and what kind of dirt and waste to expect, and where it will collect.

Pre-planning, therefore, is of paramount importance if a factory is to be easily cleaned. A recent experience of our own serves to illustrate the point. A light metals company was persuaded to decide exactly where each of its machines would be stationed on the new factory floor, long before a single brick was laid. The result was that we were able to incorporate special channels in the floors and walls to drain away waste metal and oil as fast as it fell from the machines. This was flushed into a special underground chamber, the water run off with the help of a sluice valve, and the residue of oil and metal removed every six months. The alternative would have been a messy system of manual cleaning around each machine every day.

In the same way, pre-planning will enable the builder to provide adequate storage space for materials close to each machine; to see that the gangways are of a width to permit the easy passage of trucks and pedestrians. In the case of fork-lift trucks, there must be a space for them to deposit, lift and remove in one turn.

The height of the mast of the fork-lift truck and the height of its load, when carrying the maximum, are of paramount importance in determining the height to be allowed to the underside of the truss. While excessive heights mean higher maintenance costs and higher heating costs, it is essential to allow room, not only for present requirements but to anticipate future requirements as well; this, of course, includes a review of whether or not overhead conveyors are ever likely to be required.

For the roof the use of aluminium decking has greatly reduced maintenance costs in factories, for the metal, which is quite pleasant to look at, never needs painting and the rate of deterioration is minute.

The planning of overhead glazing is of extreme importance in improving the psychological reaction of workers to their surroundings and can result in the daylight factor being increased by as much as 50 per cent. between one form of roof construction and another. Obviously, there must be properly integrated artificial lighting: the relationship between background lighting and lighting on the working surfaces must be such as to cut out shadow and thus reduce eye strain.

The worker from whom as much strain as possible has been removed is potentially much more tidy minded than one whose entire energies must be absorbed in getting his productive work done. It has been conclusively proved that a properly related background lighting system with lighting on the working surfaces is followed by fewer rejections at the inspection end.

Rubber Doors

Doorways in factories take pretty severe punishment and it is, of course, essential to see that they are wide enough and high enough not only to give plenty of room for the ordinary day-to-day traffic, but also to permit machinery used within the shop (or parts of it) to be removed without having to take half the factory to pieces to get such plant in or out. In many cases we have overcome this difficulty by having rubber doors with unbreakable windows which can be opened by the conveyancer without damaging itself, its load or the workpeople.

The selection of paints for factory decoration is of such importance now that most paint manufacturers have an advisory service to help with the proper selection of colour schemes. It is fairly well known that different colours in the mass produce a definite psychological reaction and a properly planned colour scheme can produce a restful yet stimulating effect.

It is said of one of our greatest industrialists that he changed the paint on all the machines throughout his entire machine shop from the traditional grey to a pastel shade of green —picking out the danger points of the machines in red. *It was proved that production went up, while at the same time the accident rate diminished.*

Modern techniques in the casting and laying of factory floors now make it possible to put down a surface which will not "dust", will withstand an incredible amount of hard wear without cracking or rising and which is easy to clean. The number of additives now on the market leave no excuse for dusty floors. Mouldings at the wall to floor points are, of course, a standard method of reducing dirt collection.

But good housekeeping in industry does not end with the provision of attractive and functional work space. It must be extended to the more domestic portions of the factory. Well designed lockers and toilets are an inducement to a higher standard of tidiness and cleanliness, and it is a good scheme to discourage the habit of writing on cloakroom walls by using a hard-gloss, stippled paint, on which it is impossible to use a pencil and which will wash easily.

Another welfare amenity much appreciated by the employee, and which has become our standard practice, is the incorporation of a hot rail beneath the workers' lockers. In winter they have the comfort of dry clothes to go home in and warm overalls to await them in the morning.

A canteen is an important item in most factories, and it is, of course, fundamental to find out to what purpose this is to be put, because the canteen is becoming more and more the centre of the social life of the factory. It is desirable in most cases to plan the canteen as a completely separate unit which can be sealed off from the rest of the factory and used for a wide range of social functions in the evenings and over the week-ends. It must, of course, be designed to catch the

The warehouse at Jacob's Belvedere depot. Easily cleaned, light and roomy for fully palletised working, "the new layout enables people to earn a good living more easily" says the depot manager.

maximum amount of sunlight and to enjoy fresh air and such views as may be available—not always so easy.

Now, obviously, the organisation of the canteen must be highly efficient, but it is also important to avoid regimentation in the shape of too large tables too close together. The use of smaller tables with just that little elbow room can make the worker feel an additional sense of comfort which justifies the relatively small added expenditure.

As can be seen, good housekeeping in industry is a matter which affects the well-being of the worker and, as a direct result of this, his attitude towards his work and towards management. Besides being one of industry's social responsibilities, it pays for itself in happier working conditions and higher production.

Plan Your Workplace On the Right Side Of the Law

By V. A. BROADHURST

WHEN planning a new factory or an extension, the question of layout is prominent. The requirements of production may be paramount but statutory limitations in the interests of safety and health must also be considered.

The Factories Acts lay down a number of requirements which apply to layout problems. When considering, for instance, the use of heavy machinery and plant, it is essential to make certain that the floor is capable of withstanding the load under operating conditions. To meet this point, it is sometimes planned to install heavy equipment in a basement. But it is often overlooked that there are legal restrictions on the use of underground rooms—including rooms which are only partly below ground.

When the Factories Bill which preceded the 1937 Act was being debated in Parliament, there was a movement afoot to ban the use of all underground workrooms in industry. This proposal did not succeed but wide restrictions were laid down. The factory inspector was given power to ban the use as a workroom of a basement or semi-basement on certain grounds. These are the grounds on which he may certify it as unsuitable: construction, height, light, ventilation, any hygienic ground or on the ground that adequate means of escape in case of fire are not provided.

Before any underground room is first taken into use as a workroom, notice in statutory form must be served on the District Inspector of Factories.

Alternative Plans

Another legal requirement concerning such rooms relates to hot, wet or dusty processes or those liable to give off any fume. No such process may be carried on in any underground room without written official consent once certain regulations have been made. These regulations have not yet been made so that the strict enforcement of this restriction is postponed. Once these regulations have been made such processes as dry cleaning with the use of solvents, degreasing and grinding, for example, are likely to be prohibited. In any plans it is important to have this matter in mind.

In view of these statutory limitations —actual and potential—caution is needed in proposals concerning workrooms below ground level. Even if official permission is obtained for the use of such rooms, prudence demands that alternative plans be kept in mind for the time when the law is strengthened.

The use of inflammable materials in industrial processes presents problems of layout. It is as true now as ever it was to say that the only safe thing to do with such substances is, if possible, not to use them. But if safer substitutes cannot be used, care needs to be taken with the layout.

There are certain processes such as the spraying of cellulose solutions which have to be segregated from other processes and carried on in fire-resisting structures. But even where less stringent standards prevail, there are important statutory requirements to be observed. All processes involving the use of highly inflammable substances, whether solid, liquid or gaseous, must be sited so as to prevent danger arising.

The layout should be planned so that not only the immediate working area but the whole vicinity is free from all possible sources of ignition. It is often overlooked that the latter include such equipment as ordinary electric motors and switches as well as the more obvious open flames of gas-heated ovens and similar plant.

Sometimes processes involving the use of inflammable materials are introduced into a workroom hitherto free from them. In all such cases a reappraisal of the fire escape system is needed. The fire risk has been increased, and improved means of escape may be required. Even if the existing exits are sufficient and suitable the foreman should be reminded that the maintenance of free access to each exit is important.

Work study methods generally require the raw materials for a job to be near at hand; but if those materials happen to be highly inflammable the amount allowed in a workroom must be kept down to a minimum. An outside store built to the proper safety specification is the only place for such dangerous substances.

An example of what not to do has been demonstrated by a certain manufacturer. Like many employers, he was short of space in the factory but he had to store some highly inflammable rubber solutions on the premises. He looked round in vain for a space in which to put the drums of solution. At last he found a quiet, and (hitherto) unused spot on which to place the

drums. It was the top platform of the fire escape.

The introduction of dust-producing processes also requires some thought. A small number of industrial processes, including the dusty one of fettling in an iron foundry, has by statute to be segregated from other processes. In the case of the majority of dusty processes segregation is not called for but an effective mechanical dust extraction plant is needed. If, as is so often the case, the dust given off is toxic, the dust has to be removed from the air of the workroom. This means that the self-contained dust plants which recirculate the filtered air in the room are taboo and a plant with an external vent must be provided.

Outside Walls

In other words, the dust-laden air has to be discharged *outside* the factory and this means that there must be a duct leading to the atmosphere; it is wise therefore to place a dust-producing machine where the construction of such a duct is not too difficult. Generally speaking, dusty processes should for this reason be sited near external walls of a building.

It is fairly common practice nowadays for guards to be checked (however perfunctorily) when machines are moved in the course of a change of layout. Not only should the condition of the existing guards be examined *but the need for guarding should be thought out afresh.* Volumes could be written about the legal notion of "safety by position"; suffice it to say here that, if there is a change of machine layout, the guarding which was all right for the old position may not be adequate for the new circumstances and extra safeguarding may be necessary.

Attention should also be given to reciprocating parts of self-acting machines such as the table of a metal planing machine or the carriage of a rack saw. Such machines must not be placed so as to create a trap between the reciprocating part and any fixed structure; the Factories Act allows a minimum of eighteen inches.

Method study often leads to the introduction of conveyors for the handling of materials. As far as layout is concerned, the main point is that the conveyor forms an obstruction to free movement about the room which it tends to divide into portions. This has two aspects from a statutory point of view.

First, there has to be safe access to every working place; this should be considered from the beginning and not at the stage at which employees are seen clambering over or ducking under the new conveyor in order to reach their workplaces.

Second, there is the fire escape aspect. Conveyors and other plant and equipment in a workroom should be so arranged that there is free passageway for everyone to a means of escape in case of fire. It might be thought that if the first condition regarding safe access is complied with, then so is the second one about access to exits; but in fact they are not quite the same. If, for instance, there are a number of long, parallel conveyors in a room, it might be necessary (for the second reason but not for the first) for the exits to be facing the ends and not the sides of the conveyors—so as to give easy access to these exits.

It is not only conveyors but all machinery, plant and materials which have to be placed in a workroom so as to give adequate space without congestion. Stacks of goods and materials whether in process or not should not impede access about the shop. Proper gangways, marked where appropriate by white lines, are advisable. In iron foundries, regulations demand gangways of a certain minimum width and all layouts have now to conform to this standard.

Spacing is not only a two-dimensional matter. There are also statutory minimum standards of cubic capacity of workrooms. The standard which applies to the vast majority of workrooms in factories is 400 cubic feet a person. This is a minimum standard and in making the calculation no height above fourteen feet from the floor may be taken into account. In some trades where there is a special health risk a higher standard is laid down.

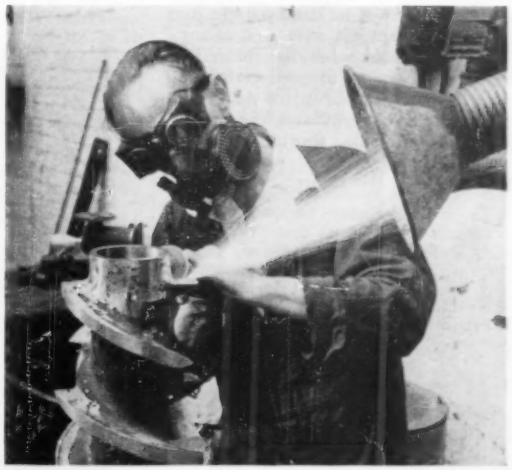
An interesting if little known aspect of cubic capacity of factory workrooms concerns exemption from periodical whitewashing or other internal redecoration. In engineering, for example, if there are 2,500 cubic feet or more per person employed in a workroom, less frequent redecoration is allowed.

Some changes of layout involve notice being given to the local council. Every factory should be furnished with a Fire Escape Certificate from the council. When the certificate was issued the council had to take into account such facts as details of the nature of the structure, processes carried on, materials handled and the distribution of personnel throughout the building. If subsequently there is a change which affects the matter the council has to be notified by the occupier of the factory. Thus notice would be needed if more people were to be employed in one part of the factory or if it was proposed to seal up a door or if inflammable substances were introduced.

A point which constantly crops up when planning the layout of a whole factory is that of access to welfare facilities. It is often difficult to ensure that all workpeople have easy access to the canteen, ambulance room and personnel office, for instance. The question arises; what does the Factories Act say about this?

Easy Access

The answer in broad terms is that washing and sanitary accommodation, drinking water, cloakrooms and first-aid facilities must be conveniently accessible. By now factory inspectors and other experts have a good idea what "conveniently accessible" means. The employer who made his employees trail down three flights of stairs and cross the factory yard in all weathers to the facilities obviously had not.



Protective goggles and respirators must be supplemented by extraction plants which carry the dust-laden air away from the workplace.

Moving House Needs Careful Thought

By H. H. NORCROSS, F.C.W.A., *Partner, Norcross and Partners Ltd.*

Taken from "Forecasting Cost Behaviour", a paper read to the British Institute of Management's Northern Conference, Southport, March 22-24, 1957.

A short guide to the problems—and advantages

—of moving your staff to a new factory

MOVING an industrial organisation from one site to another inevitably causes a "shake up" amongst personnel. The factory removal may require many employees to move their homes to the new district and this can influence *morale*. Workers who, for example, formerly lived in London and who have been moved to Harlow, Hemel Hempstead, or some other new town, have many problems to face. The rents of their new houses will probably be much higher than those of the houses they left in London. They will find that cinemas and other facilities are poorer than in London, and they will miss the familiar places, and friends and the relations they have left behind them.

Unless the men and their families can settle down happily in their new surroundings, the morale and efficiency of the factory will be damaged. In due course the emphasis may well change from regrets for what has been left behind in London to appreciation of what has been gained in the new town in the way of better houses, easy access to the countryside, shorter travelling time between home and work and so on. But until the change of emphasis comes, it may be a very difficult uphill fight to create that good morale which can have such an important effect on production and costs.

Moving to a new factory may also cause *organisational* problems. The removal may involve vacating several small factories and concentrating production into one larger factory on the new site. The old factories may have been so small that very simple management techniques were adequate and these simple methods of organisation may not give satisfactory results in the new circumstances of concentration.

Factory removals can also cause *training* problems. For example, an engineering factory may be moved from one predominantly industrial engineering area to another district where there is no local engineering tradition and no local supply of skilled workers. The bulk of the workers in the new factory may be local people who have had no previous experience of working in an engineering factory. These people would have to be trained and directed by a nucleus of skilled managers and technicians transferred from the old district.

Such a situation, however, brings both advantages and disadvantages. The disadvantage of using "green labour" can be obvious; the advantages are less apparent.

A skilled engineering worker, who knows the accepted engineering traditions of the district in which he works, can be very conservative. It may be difficult, or even impossible, to get him to carry out work by new methods which depart from tradition and which have been designed by imaginative planning engineers. He may, without justification, decide that it is impossible to work the new methods.

A man without previous engineering experience can be much easier to handle. He is likely to follow the methods devised by the planning engineers, *simply because he lacks the knowledge and experience to question whether those methods are workable or not*. As a result, the factory in the new district may reduce its production costs, in terms of both man hours and money—even to a point below the level achieved in other districts where the bulk of the employees are skilled engineering workers.

These, then, are the pros and cons of moving house. To the employee it means fresh surroundings, often a new house, new neighbours. A change of this kind is not necessarily "as good as a rest"; it is always something of an upheaval. Careful plans must be laid beforehand, but they will be of little consequence unless management realises that it has on its hands, temporarily at least, a situation which must be delicately handled.

Workers move house too. Wives of Dexion employees are shown their future homes in Hemel Hempstead by Mr. G. Brooke Taylor, Public Relations Officer of the Development Corporation. *(Daily Mirror Photograph)*

Human Relations in Print

THIS YEAR'S B.A.I.E. CONVENTION

OVER 100 industrial editors, representing house journals produced by Government departments and industrial and commercial organisations throughout the country, gathered at Harrogate last month for the 8th Annual Convention of the British Association of Industrial Editors. The attendance was roughly a quarter of the Association's membership which has grown, since its inception in 1949, to more than 400. The total circulation of members' journals is estimated at 4,000,000 copies not counting those journals which have an extensive readership overseas.

The convention was opened by Dr. F. B. Bennett, M.P., parliamentary private secretary to the Minister of Labour who addressed members on the subject of management/labour relations from the national level down to the smallest factory unit.

This was the beginning of a full and absorbing programme which captured the attention of all those present. The six working sessions of the Convention were exactly what every industrial editor could desire, and ranged from the more technical aspects of magazine production through considerations of content and policy to the effect upon human relations of future technological changes in industry.

On the production side, Mr. Hugh Williamson, production manager of William Heinemann Ltd., described future trends in printing techniques. One development he mentioned, electronic engraving, was amplified at a later session by an illustrated talk and demonstration of an electronic colour process engraving machine by Mr. J. C. Hooper, O.B.E., managing director of St. Clements Press Ltd.

Policy and Purpose

Mr. Frederick W. Wallace, M.A., industrial and legal director of Kemsley Newspapers Ltd., gave a short history of Press censorship and the law of libel, and Miss Ruth Bowley, well-known writer and journalist, offered some advice on style and content. The purpose of the house journal was examined by Mr. A. C. Durie, general manager (administration) of Shell-Mex and B.P. Ltd., who described the house journal as a telescope of which management were the owners, and the editor and his staff, the makers; through it the employees could see what management was doing and why. It was a mistake to treat it as an external organ of publicity or public relations, since its proper function was as an internal means of communication, to give information on the company's policy and to interpret and give reasons for that policy.

The total circulation of house journals in Britain was believed to be about 10,000,000 and he assessed the potential readership, including wives and children, as about 22 million people—almost half the population. He suggested that editors could learn much from the approach of the popular Press, especially the *Daily Mirror* and *Daily Sketch*, with their predominant interest in the "under 30s."

On this last point he was challenged by a later speaker, Sir Walter Puckey, chairman of Automation Consultants and Associates Ltd., who examined the advantages and problems created by automation and other technical changes. His message to editors was to aim at the "over-40s," to keep their minds supple and to overcome the traditional resistance to change so often found in the minds of this age group. He agreed with a questioner that fear of automation could spring from the belief that there was something uncanny in this new development, but, he added, this second industrial revolution had already begun to show the ascendancy of men over the machine. It was the job of the house journal ("poised halfway between the technical journals and the popular Press") to show workers that machines can assist man's brain not only to work but to enjoy the increased leisure which they afforded.

Machines and Men

Technicians, he pointed out, were also concerned with the human attitude to technical changes and the effect they would have upon mankind. Human relations methods could deal with many aspects of automation as they did with mechanisation, but the rate of change was so much more rapid and it affected many more people. He suggested that not enough had been done to adapt the over-40 age group to these technical advances.

Editors' Reward

THE highlight of every BAIE convention, although it comes at the very end of the proceedings, is undoubtedly the presentation of awards in the annual house journal competition which grows rapidly in size and importance every year. The 1956 contest attracted 160 entries; this year 266 journals were submitted, an advance which reflects the growing significance of the Association as an influential force in industrial journalism.

The premier award is "The Industrial Editors' Trophy," a plaque given to the Association by the Monotype Corporation Ltd., and presented each year to the editor of the best journal published primarily for internal readership. It was won this year by *The Shell Magazine* (Royal Dutch/Shell Group of Oil Companies), whose editor, Mr. Kenneth B. Showler, was unfortunately prevented from receiving the award in person by an accident sustained some days previously.

Other awards are made in each class of publication, the classes referring to frequency of publication, format and use of more than one colour. Published below are the awards of excellence presented in each class:—

Group 1: Publications intended primarily for internal readership.

Class A:—
Viewpoint (Dorothy Perkins Ltd.). Editor, Miss Joy P. Lee.
Mobilnews (Mobil Oil Co. Ltd.). Editor, Mr. R. H. Johns.

Class B:—
The Shell Magazine (Royal Dutch/Shell Group). Editor, Mr. K. B. Showler.

Class C:—
The Blundagon (Blundell, Spence & Co. Ltd.). Editor, Mr. S. A. Mortlock.
Indoors (Trust Houses Ltd.). Editor, Miss M. G. Phillips.

Class D:—
Teamwork (Nuffield Organisation). Editor, Mr. Geoffrey Ashton.

Class E:—
Birds Eye View (Birds Eye Foods Ltd.). Editor, Mr. R. L. Wilson.

Class G:—
Wimpey News (George Wimpey & Co. Ltd.). Editor, Mr. Charles Mann.

Group 2: Publications intended primarily for external readership.

Class H:—
Steel Review (British Iron and Steel Federation). Editor, Mr. Michael Goodwin.

Class K:—
The L & M News (Linotype & Machinery Ltd.). Editor: Mr. G. C. Bensusan.

Management News and Ideas

A New Source For Apprentices?

A RECOMMENDATION that Home Office approved schools should be favourably considered as recruiting grounds for craft apprentices in the building trade, is made in the fifth and final report of the Building Apprenticeship and Training Council, published recently. It is also recommended that a pre-apprenticeship course in a secondary modern school should qualify for a remission of one year's apprenticeship.

The report, published by the Stationery Office, price 4s., pays tribute to the great efforts made by the industry to promote wider observance of the national apprenticeship scheme, and asks it to consider an arrangement by which firms unable to play their full part in apprentice training could contribute to the cost of training facilities on the lines of the apprentice master scheme—a scheme which began in 1945 and covered 116 local authorities; 7,500 boys were trained and over 3,000 houses were built by the time the scheme ended in 1952 for reasons of economy.

The Council believes that scholarship awards to outstanding apprentices form a most valuable contribution to the advancement of training in the industry, and suggests that much would be gained by examining the methods by which labourers can proceed to the status of craftsmen.

Clearing the Air

THE implications of the Clean Air Act will be studied by works managers and plant engineers who attend two more of the National Industrial Fuel Efficiency Service's refresher courses this September. NIFES invites enrolment for each of these courses which will take place in Leeds and Oxford, respectively.

The former begins at Leeds University on Monday, September 16, and ends on the following Friday, the 20th. Subjects for study include: "Problems of Works Management" and "What Does the Works Manager Do?" There will also be evening film shows and a visit to a nearby plant.

The Oxford course will be held at the Clarendon Laboratory from Monday 23rd to Friday 27th, and students will consider, amongst other things, nuclear energy, space heating and planned plant maintenance.

Copies of the programme and registrations forms for each course can be obtained from the local NIFES secretary:—

LEEDS.—Mr. F. W. Anderson, St. Paul's House, 20-22 St. Paul's Street, Leeds, 1.

OXFORD.—Mr. E. S. Watkin, Ailsa House, 181 King's Road, Reading, Berks.

Electrical Accidents

CLOSED circuit television in factories should help to reduce the number of accidents caused by electrical faults, since the use of TV cameras for remote observation makes it possible to co-ordinate the control of plant and traffic and to detect incipient failures. That opinion is expressed in the recently published report by the Ministry of Labour's Factory Department on electrical accidents and their causes in 1955.

The report (H.M.S.O., price 4s.) shows a surprising increase in the number of electrical accidents—a total of 739, of which 42 were fatal. These figures administer a slight jolt to the gradual trend of post-war years; despite the increased use of apparatus in industry during that time the accident total dropped from 891 in 1945 to 707 in 1954.

A large number of fatal accidents in 1955 were caused by portable electrical equipment, accidents chiefly involving people without electrical skill or knowledge. Of all types of accident, however, 275 could be traced to ignorance, forgetfulness or negligence, and 95 of these were caused by negligence on the part of someone other than the injured person.

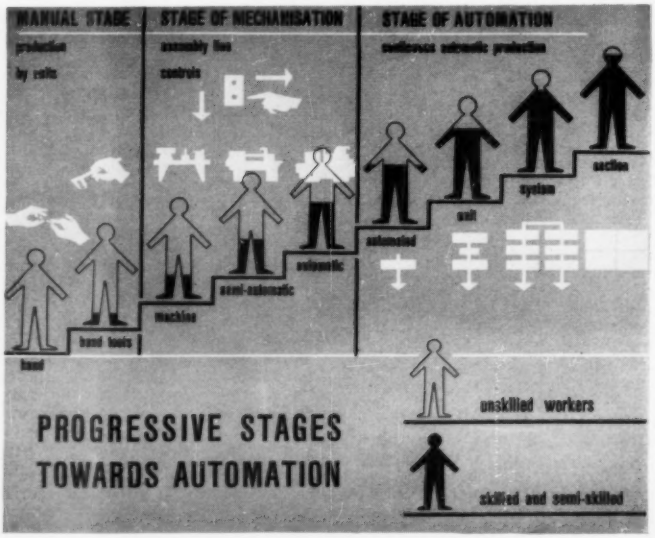
Safety Example

IN one year the accident rate at Lec Refrigeration Ltd., Bognor Regis, has dropped 60 per cent. Moreover, what accidents there were proved far less serious than last year: only 935 man hours were lost, compared with a previous total of 4,072. To achieve this the firm's safety committee has investigated every accident, prepared a detailed report, discussed it fully at the following committee meeting and taken steps to ensure that a similar accident cannot happen again.

The company has derived more than satisfaction from this sharp decrease in working hazards, however; as a direct result their insurers have agreed to a one-third reduction in insurance premium.

Machines for All

"WITHIN the next five years" said A.E.I. chairman, Lord Chandos, in a recent paper to the Institute of Cost and Works Accountants, "we shall have systems enabling the wages to be paid by the use of computers, however complicated the bonus and



The International Labour Organisation is at present producing material to explain automation in simplified terms. This interesting chart is one sample.

piece-work rates which have to be incorporated in the wage packet".

"We are not far away from techniniques which enable cheques to be scrutinised, listed and passed for payment by the use of computers . . . Give us a business system for instance, of cost accountancy and I would feel pretty sure that we could develop the machines to give you what you like. We shall live to see the day when the auditor will arrive with his own portable computer on which he will be able to check the accuracy of our calculations".

Any Takers?

SINCE its foundation in 1894 the National Trust has done much valuable work in preserving historic buildings and beauty spots for the British public. They recently opened a drive for increased membership and in conjunction with this a series of articles has been prepared on the Trust's various properties throughout the country. The articles are intended for use in house journals, and any editors who are interested should write to Miss Joyce Moore, Public Relations Dept., J. Walter Thompson Co. Ltd., 40 Berkeley Square, London, W.1.

Obstinately Static

THE figures below show the index of production for all industries after adjustment to exclude movements due to regular recurring seasonal factors, including holidays. "The adjusted series" says the Ministry of Labour, "is designed to make the trend of production more readily discernible". It also shows this trend to be obstinately static. Figures are based on the index 100 for 1948.

	1955	1956	1957
January ...	134	138	137
February ...	134	136	137
March ...	136	137	136
April ...	136	136	136-7
May ...	137	136	
June ...	135	138	
July ...	136	136	
August ...	136	134	
September ...	138	137	
October ...	139	136	
November ...	139	137	
December ...	141	135	

Fire Precautions

ELSEWHERE in this issue we give a summary of the law affecting factory planning and layout. Amongst the many regulations discussed is one section covering the management's duty to guard against fire. This makes strict demands upon employers to provide adequate precautions, alarm facilities and means of escape, and to help them in their plans the Fire Protection Association has recently produced two bulletins.

The first, "Escape from Fire," is complementary to an earlier bulletin dealing with the structural means of escape, and offers a fire plan for the provision of alarms, calling the fire brigade, and safe maintenance of escape routes and fire-fighting equipment. Also included are instructions for individual action, designed to be posted up where employees can read them.

The second leaflet deals with the part good management can play in preventing an outbreak of fire, by paying close attention to questions of tidiness, maintenance, machinery, storage, heating and lighting systems, and inflammable liquids.

Copies of the bulletins can be had, free of charge, from the Association at 15 Queen Street, London, E.C.4.

Deaf girls at the Law Society's offices. They have been trained to operate Powers-Samas accounting machines, hence are now able to do a useful job. In the foreground is Mr. Edward Evans, M.P. for Lowestoft, who takes a special interest in helping handicapped people.

Wage-Annuity Plan

EMPLOYERS who plan to grant a wage increase but who cannot afford additional money for a pension scheme, however desirable, may find the answer in the solution adopted by an American chemical company. Under this plan, employees themselves invest the wage increase in a group annuity through an association of employees formed to contract with an insurance company.

This "wage-savings annuity plan" offers a method whereby some employees can receive the wage increase and others can make provision for their retirement security. *(A.M.A. Management Review.)*

More Help for Disabled

THE Government has accepted the ILO recommendation on vocational rehabilitation of the disabled made at its 38th session in 1955. This recommends that to meet individual employment needs and to use manpower resources to the best advantage vocational rehabilitation services should be made available to all disabled persons who can be prepared for suitable employment, and whose prospect of securing and retaining it is reasonable.

PERSONNEL APPOINTMENTS

The first personnel officer to be appointed by Palm Line Ltd. is 46-year-old **Mr. David Williams** whose career to date has been connected with the Royal and Merchant Navies. Based at the firm's Liverpool office, Mr. Williams will be responsible for the recruitment and welfare of the company's staff afloat.

Miss Freda Hudson has recently been appointed personnel and welfare officer of A. C. Nielsen Co. Ltd., the international marketing research organisation. She will be responsible for all 600 of the company's female staff. First assignments include setting up canteen and medical services in the firm's new European headquarters at Oxford. Miss Hudson has spent some years in staff management with a multiple store organisation.

Miss E. Beryl Gavin, formerly personnel manager of T. Dockrell Sons & Co. Ltd., Dublin, has now joined Vacmaster Ltd., Lower Leeson Street, Dublin.

Mrs. H. Morley-Pearce, formerly chief welfare officer at Hercules Ltd., is now available for a personnel appointment in the Bristol area.

THIS MONTH'S TOPICS

Are We Ambassadors for Top Management?

Is High Production always linked to High Morale?

THE letters I continue to receive from you on the role of the personnel manager raise, as expected, many different issues. Mr. C. E., for example, personnel manager of a firm in Wolverhampton, writes:

"Surely the most important and most enduring function of the personnel manager is to be the spokesman of his management in their dealings with organised labour? Trade union contracts are complex and intricate; it requires much study of past negotiations and much experience in the handling of present-day negotiations before one is competent to handle them successfully. Trade union officials spend a lifetime on such work and many of them received special training and had to pass exams before taking up this work. A wise management will see that it is equally competently represented in this highly important and very specialised field".

Thank you, Mr. 'C. E.', for raising this most interesting point. It can be argued that this function (which is an important part of many personnel officers' work) is an uneasy bedfellow with other parts of the job.

Let us imagine, for a moment, a possible day in the life of such a personnel manager. In the morning he had a conference with the trade union official. The position is one of conflict. To be successful he must bargain hard and skilfully. He may fight fairly, but fight he must. Can he then successfully change his role after lunch and spend the afternoon being an equally skilled but this time impartial arbitrator in a dispute involving relationships between (say) a foreman and one of his operators?

A study group of well-known industrialists solves the dilemma this way. They report:

"In this role of negotiator the personnel manager acts as an ambassador for management. There is a distinction between his role as adviser or counsellor and his ambassadorial role. In the first it is his duty to advise management on the formulation and application of personnel policy, to advise individual employees and to receive from them confidential information and to use it with discretion. In the second role, he is deputed by his management to act as their delegate and to put the views of management in negotiation. These views are not necessarily his own, although, of course, he is able to argue any difference of opinion with management in private and may influence the line of policy taken. . . . Provided that his advisory or fiduciary role is clearly distinguished from his negotiating role the latter need not prejudice the former".

I should like very much to know what you think about this.

Output and Satisfaction

THIS same report also states that it is the personnel manager's concern to provide for human satisfaction at work but that this concern "is affected and may have to be modified by considerations for the economic success of the undertaking. . . .However high morale, job satisfaction, efficiency and economic success should be compatible". This, of course, is another of the thorny questions which is perenially being debated in personnel management circles. It was illustrated for me some time ago by the superintendent of a railway engine repair depot who said to me: "You know we have had some very good human relations in our shed this past few months—but we haven't repaired many engines!"

Are high morale, efficiency and economic success always and inevitably linked in an industrial enterprise? By providing job satisfaction and high morale does it follow that the personnel manager is making his maximum contribution to the economic success of his firm?

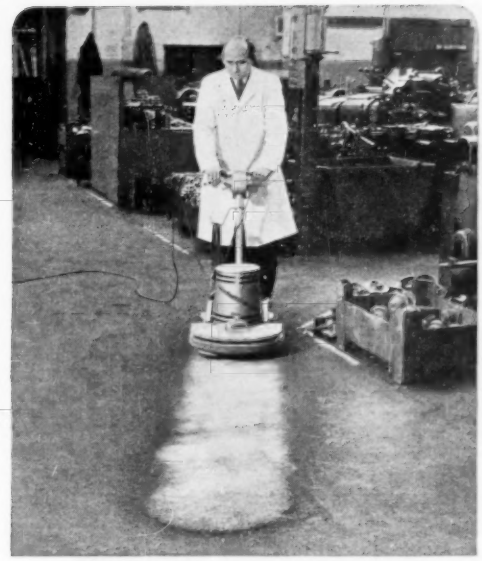
I have wondered about this from time to time, but now fresh evidence is throwing new light on this whole question. **According to the evidence, high morale and high productivity do not necessarily go together.** Other factors must also be present in the situation. High morale must, for example, be associated with an appreciation by the employees of management's production goals; their supervisor must be technically knowledgeable and administratively efficient, as well as "employee centred".

These findings indicate that this aspect of a personnel manager's job is far more complicated and scientific than was dreamed of by the pioneers whose main concern was welfare. So, as our knowledge about people and about the forces that operate when people work in groups develops and grows, the job of the personnel manager must also develop and grow.

Yet another piece of recent research evidence may eventually revolutionise present methods of selection and placement commonly used by personnel managers. According to this evidence, it is possible to build high producing units, particularly for jobs requiring intelligence, by putting "birds of a feather" together. The main element to look for is the *need to be liked*. The more people are similar in needing the liking and approval of other people—or the reverse—the more compatible they will be in a work group and the better the work done by the group. Other factors are similarity in the need to be respected and the need to be paid attention to.

So, people who are compatible on these emotional planes will think and work most effectively together. Some may find it surprising that emotional factors of this kind should have such a strong influence on the way people think at work. Picking the right people to go with the right people on these purely emotional levels is obviously a tricky job. Are personnel managers equipping themselves now for these and other tasks which, I believe, are just round the corner?

DISCUSSION LEADER



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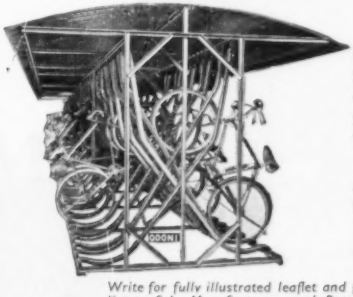

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Employment of women in offices was disapproved of by many people in the 19th century because they said that women would play about instead of doing serious work. This cartoon was published in 1869 when women were first employed in the U.S. Treasury.

MORE THAN ONE RIB'S DIFFERENCE

A Plain Man's Guide to WOMEN at WORK

By SIDNEY FELDMAN

"Ministering angels" or the "monstrous regiment"? Whichever view you take, women are more important to industry and business than at any other time in history. This article therefore contains one or two facts about the female of the species which the male executive should always bear in mind.

MORE attention is being devoted today to female needs because more women are on payrolls than at any other time in our history.

In practically nine cases out of ten, female employees prefer male supervisors. The male boss is regarded as being more considerate, more fair, and either more tolerant or understanding. The male ego would do well, however, to understand the female mind and female physiology. There is more than one rib's difference between the millions of Adams and Eves who inhabit this Eden called Earth.

Scientists have determined that men are stronger physically, whereas women are stronger biologically as well as psychologically. More baby girls than boys survive pregnancy and birth. From then on, girls (who are about a month ahead of boys in physical development) maintain their head start until 14, when girls usually have passed puberty while boys are about to enter it.

Dr. Wilson T. Sowder, U.S. Public Health Service, has stated that women escape the consequences of woe and worry in our complex civilisation "by being more vocal about these conditions through tears or, occasionally, hysterics". Though men shun such feminine actions, women outlive them—and nothing succeeds like survival.

Women's higher survival quotient can be attributed to their greater devotion to themselves and their ailments. Although women are more susceptible to diseases (than are men) women tend to pay more attention to minor ailments and illnesses in their early stages. Many women work in offices as well as their own homes, caring for their own needs or those of their husbands and children. Such training encourages women to be more careful of health. And, since women tend to be more concerned with their complexions and appearance, they pay more visits, more attention and more money to doctors, dentists and beauticians.

In addition to being more interested in their appearance and clothes, women tend to think differently, as well as work, walk, talk and act differently from men. In early childhood, for

★ *Reprinted from the American magazine "The Office" by kind permission of the editor and publishers.*

example, girls learn to walk and talk earlier than do boys. They also tend to be less active, yet stick more closely to a task. These, for example, are among more general findings pointed out by the Cleveland Health Museum which exhibits a transparent plastic woman called "Juno, symbol of all women".

Physiologically speaking, women's brains are smaller than men's brains—but the female brain weighs more than the male brain in proportion to the female body weight. (Women tend to be five to seven inches shorter than men.) Though the reason cannot be attributed to brain weight, women usually have better memories than do men. This is a great advantage to women office workers entrusted with a kaleidoscope of details. Women's hearts, averaging about two ounces smaller than men's, work harder—throbbing about eight to ten beats more than men's hearts each minute. Women also tend to have lower blood pressure.

Women are biologically stronger but physically weaker than men because women's bodies are about 35 per cent muscle and about 50 per cent of their weight is strength, whereas about 40 per cent of men's bodies is muscle and almost 90 per cent of their weight is strength.

Women are chunkier than men. The female has a relatively long trunk and short arms and legs which enable her to bend at the waist, but she cannot reach out too far or too often without straining. Work equipment and layout should be designed for about 10 per cent less reach than for male use. It is also advisable for a work top to be approximately 60 per cent as high as the female worker.

Tools and equipment should be adopted to women's shorter thumbs and longer index fingers. Bones of women's forearms are attached at an angle to the bones of the lower arm. This particular joint construction tends to make women tire easily whenever they must perform a rotary action — turning knobs, dials or devices. This is fatiguing and often induces pain in the arms, shoulders, legs and thighs.

Management can ensure female comfort and better work by providing proper seating to accommodate their women employees. Many companies provide posture chairs adjustable to custom fit the flesh and skeletal framework of each employee. Further, the female anatomy requires that machines with foot pedals be built so that little

"That's the best office intercommunication."

pressure is required to operate or control the machine.

Social scientists dispute and refute the myth that women excel at doing detailed, repetitive, monotonous work requiring manual dexterity. These researchers state that working position, equipment and facilities should be as comfortable as possible, and that a work routine should be varied to discourage the boredom born of monotony.

Women have less physical stamina and tend to tire quicker than do men. Males, who are more developed in the upper shoulder-heart-lung area, are equipped to do more arduous work; females are more developed in the lower hip-abdomen-reproductive organ area.

Heavy labour or long stretches of unrelieved clerical work produces waste products which have to be eliminated by oxygen, obtained through the lungs and carried to the muscles by the blood. Greater lung capacity enables men to have quicker and greater oxygen supplies; the ladies are not as well equipped in this respect. Along with having lower blood pressure and small vital capacity, women also have a lower basal metabolism than men. Women's vital cellular activity, respiration and circulation are carried on at a slower rate requiring less energy than males.

That is why management allows rest periods and provides pleasing facilities to enable women employees to let their bodies restore oxygen to counteract wastes which hinder output and efficiency of work. Many employers have come to appreciate the value of a comfortable and attractive restroom, with a matron, as a worthwhile investment. If not abused, time out for a morning and afternoon snack, some talk and a smoke, will restore the human battery. A rested worker will invariably work faster and more accurately—producing better work and obviating costly and time-wasting errors.

In an interview with one of New York's leading gynæcologists, a male doctor who is consultant to firms with several thousand female employees, it was learned that the problem of menstruation can be simple and reasonable or complex and expensive. Company policy (internal) and the degree to which employees are organised (relatively external) are two determining factors.

This gynæcologist found that where management is liberal it tends to lose 10 to 12 working days or more for each menstruating female worker in the course of a year when she is sent home because of "cramps". Where employees are organised in a company group or external union, management invariably has to comply with a female

"We may not be getting much work done but we've sure licked the morale problem."

How TAMPAX is helping to reduce "time off" amongst female workers

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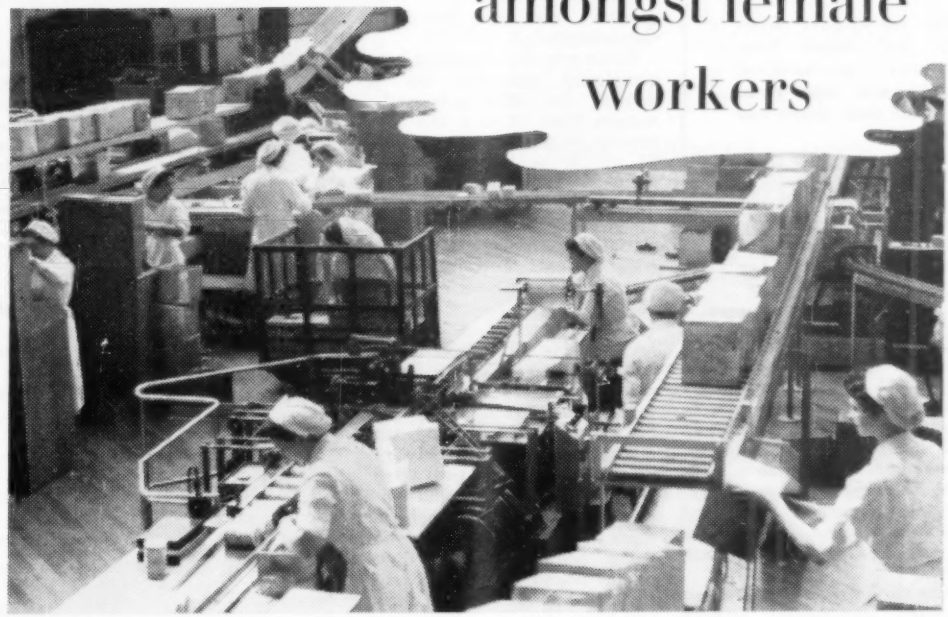

Section of typical Industrial Plant, by courtesy of "Picture Post" Library.

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worker's request to give her the day off because of menstruation. In some large concerns the costs annually run into hundreds of thousands of dollars. In addition, there are unseen costs caused by interruption of work flow, delays, loss of workers' time and efficiency, either because of her absence or temporary introduction of a substitute worker.

According to the gynæcologist interviewed, when management informs potential employees of its no-time-off policy, such girls minimise their claims of "cramps" when asked (during a pre-employment physical), "How many days did you miss school, or your previous job, because of menstruation?" This doctor further stated that where management does not permit time off, practically all "patients" take pills or other medication and go back to work—with about 1 per cent time loss during a year. Doctors know that few menstruating women are seriously ill and have to stay at home.

Some medical authorities say that menstrual periods involve no lessening of the normal woman's ability to work. Still, it is up to immediate supervisors and general management to be aware that menstrual pain can reduce a woman's capacities, energies and outlook.

The working woman has to arrange her life to accommodate childbearing. Pregnant workers would do well to inform their supervisors, and to present a written statement from their doctors. Usually doctors advise women they can work until they are pregnant seven months, or less, depending upon individual conditions. Advancing pregnancy soon limits women working because they cannot bend too much; they tire more easily, have poorer balance, and their abdominal muscles are more susceptible to muscular strain. Most females who are visibly pregnant leave their jobs because of appearance.

Up to now this discussion has almost completely embraced the younger worker, the office girls and career women from 18 to a few grey hairs beyond 30 or 35. Around the ages of 45 to 50, as irregular menstruation occurs, women are physically and emotionally irregular as well. Still older women are being hired as more clerical jobs occur and turnover rises, while younger workers go off to get married and lean over cribs instead of files.

It is as paradoxical as it is natural for a young girl to yearn to be old and then pretend to be young after she reaches that uncertain age. Elderly women who are sensible recognise their age, act accordingly, and trust that management will not only realise it needs them but will treat them fairly.

However, as the reproductive twilight comes across older women, many of them have to contend with the menopause. Some women react hysterically to this period which smothers the last trace of youthful bloom; they fear it will harm their cherished appearances; they worry about their work and suffer great anguish. Some sources believe that during menopause the older woman worker should be transferred to jobs requiring less concentration or manual dexterity.

Once more it remains for management to take a stand, to anticipate, understand and openly clarify its policy toward the older woman worker. Such a policy can alleviate the unnecessary mental strain of an older woman, who may be a spinster, who remained on the job and fears for her security; or a mother whose family depends upon her income.

Briefly summarised, one author on the subject of "Woman's Medical Problems" observed: "Nine times out of ten normal business women on ordinary jobs may have some hours of mild melancholy, a slight increase in irritability and anxiety, and are sure to recover, to live happily and successfully in office and home for years to come." Still, some cases can be severe.

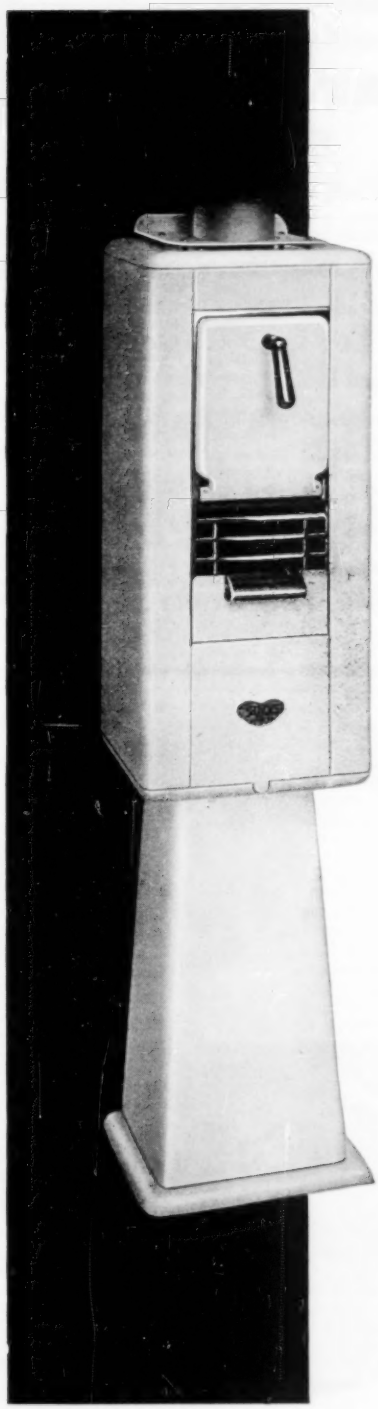
Another important aspect of interest to working men and women, young and older, is health and safety on the job. In its survey on the subject, the National Safety Council concluded that most measures which protect men from injury will also protect women. Of chief import, management should be guided by knowing: (1) Women are not as strong as men. (2) Women are smaller than men.

Many of the 18-to-30-year-old women suffer the same chief accident complaint: slips and falls. This may be largely attributable to women's physical structure. Women's thigh bones bow out toward the knee, although the resulting "knock-kneed" effect is usually plumply camouflaged by soft layers of flesh over the thighs. Not only do women incline forward at the hips as they gracefully, swayingly move along, but they do not stand as erect as men.

A practical as well as philosophical view of the subject of working women shows that like working men—working women are here to stay. More female than male babies are liveborn. Millions of men have perished in wars. Both our expanding economy and higher cost of living call for a greater labour supply.

A summing up can be drawn from a survey by the National Safety Council which determined that:—

1. Women are not more susceptible to dermatitis.
2. Women are not more likely to have accidents.
3. Women are not more subject to fatigue (though they recover strength and energy more slowly than men).
4. Women do not lack mechanical or administrative ability.
5. Women do not have greater manual dexterity (though they tend to have slower mental reactions resulting in slower muscular action).
6. Women are not especially good at monotonous work which bores them just as much as it bores men.
7. Women make able workers both in the office and factory just as they do in the home.
8. Women do not work only to buy luxuries; many of them have bought their independence and help support families by their labours.



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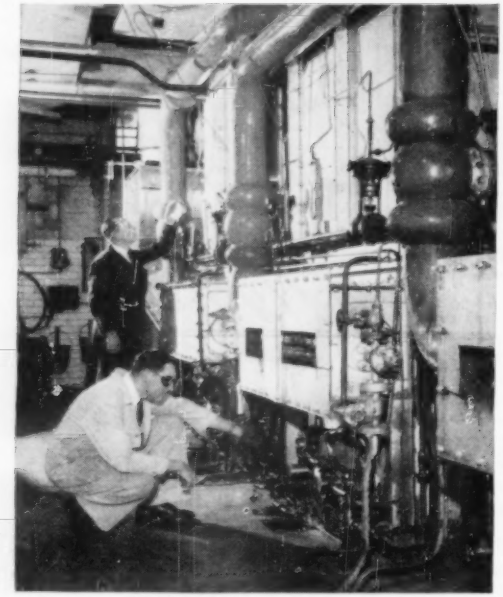

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Today's Ideas in NEW BOOKS ★ NEW FILMS

Language Difficulties of the Businessman

English for Business. V. H. Collins. *Phœnix House, 8s. 6d.*

THE title of this pocket-size guide to correct English usage may be slightly misleading. There is, the author stresses, no special style of expression that ought to be used in business; on the contrary, "English is good or not good all the world over". It is the kind of English used in business circles today which he wants to change, and he has certainly found a chaos which cries out for order.

Every occupation has its jargon, mainly for purposes of speed and accuracy, and the writing of business letters is no exception. But today's businessman, aided and abetted by his secretary, writes to a formula which often serves merely to cramp his style, and occasionally to cloud his meaning. To the initiated, *inst.*, *ult.* and *prox.* are simplicity itself, but the author shows that even these supposedly safe formulæ are frequently, through ignorance of their true sense, made completely meaningless. They are symptoms of a more general disease—careless misuse of the language.

There are many other common errors which the author takes pains to correct. Some will come as a surprise to readers who have been subjected to them for so long that they have come to accept them. One is perhaps quick to suspect pedantry in a book of this kind, but in this case scholarship is backed by a clear grasp of the businessman's needs—to make his point clearly and succinctly. It is pleasant to read a well-written letter, but it is more important to understand what the writer is trying to say. As the author shows in this handy book, the two should go together.

Minds at Work

Practical Psychiatry for Industrial Physicians. *By W. Donald Ross. Blackwell Scientific Publications (24-25 Broad Street, Oxford), 57s. 6d.*

THIS book presents principles and details of the psychiatric aspects of the occupational physician's job of promoting mental and physical health in industry. It includes contributions from a number of medical men and psychologists interested in the topic. It is in four parts: attitudes, basic techniques, co-operation by industrial psychiatry and allied sciences, and detailed problems.

As a guide to the work doctor not versed in psychiatry but who believes that his job demands attention to the mental as well as physical health of workpeople, this book should prove very useful indeed. It has the double virtue of being comprehensive yet written in clear and direct style.

Dispelling Fear

AS the industrial use of X-rays and radioactive isotopes increases it brings with it a growing apprehension of the possible dangers to which the worker exposes himself—an apprehension which, say the British Welding Research Association, is quite justified since it is not evident to the senses when irradiation is taking place. Such an attitude, however, can all too easily develop into superstition, and with the purpose of replacing apprehension with the more constructive and assured approach of the modern industrial safety programme the Association has produced a booklet on the essential precautions to be taken to safeguard personnel.

X- and Gamma-ray Safety Precautions is intended simply as a general guide to radiation hazards. As the foreword says, "it is impossible to foresee all contingencies which may arise in practice".

Of its kind, this booklet is admirably conceived. It covers the hazards and safety measures, and devotes some space to the maximum permissible dose an operator should safely receive over any given period.

The booklet costs 2s., and is available from the Association's Publications Dept., 29 Park Crescent, London, W.1.

Revised Careers

DEMAND for the revised edition of the Ministry of Labour's *Careers Guide*, which was published in June, 1956, has been so great that another revised edition has been produced which incorporates a new section on the work of Factory Inspectors. Issued by the Central Youth Employment Executive, it can be bought through any bookseller or direct from H.M.S.O., price 3s. 6d., or 3s. 10d. post free.

No More Shadows

New Light on Industry.

(Black and white; 16 and 35 mm; 31 minutes).

"BAD lighting", says the works doctor, "leads to bad posture; and bad posture leads to all kinds of complaints". This sound welfare reason for making sure that your factory is adequately lit is amongst many advanced in the course of this new film produced by the British Electrical Development Association. The speaker is one of a number of characters the narrator meets in his search for modern ideas in factory and office lighting.

The search which begins at the British Industries Fair with Lord Chandos stressing the importance of good lighting and the need to consult experts at the earliest stage, leads on to a company director, workpeople, a doctor, a welfare officer, an architect and a lighting engineer. Gradually the narrator learns not only what lighting can do to make work easier, more pleasant and more accurate, but also how the many modern lighting systems available can be used to their best advantage.

Copies of the film are available on free loan from the B.E.D.A., 2 Savoy Hill, London, W.C.2.

Industrial Highlights

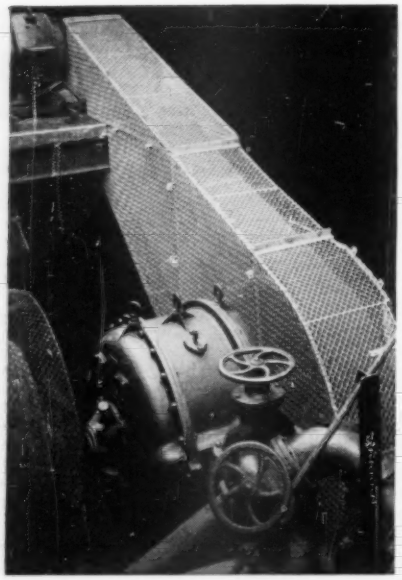
ACCIDENT prevention, industrial relations and business efficiency are among the many subjects covered on 16mm. film, now available on free hire from the G.B. Film Library. Only postage and insurance has to be paid by the hirer.

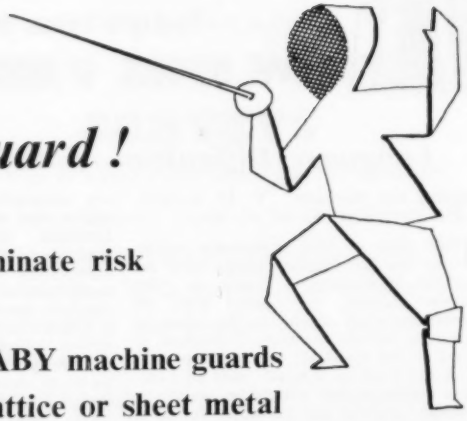
The films, sponsored by many well-known companies, highlight the achievements of British industry, and full details are given in the library's catalogue obtainable from G.B. Film Library, Aintree Road, Perivale, Greenford, Middlesex.

Training Aids

THREE new film strips have been produced which will be of interest to training officers concerned with induction courses for retail staff. Costing 15s. each, they were all produced for the London County Council, the first two—*The Multiple Store* and *The Self Service Store*—in collaboration with J. Sainsbury Ltd., and the third—*The Departmental Store*—in conjunction with Harrods Ltd. The strip on the self service store shows the object and function of this new retail development, and throws some light on future trends. The others describe the different aspects of buying, selling, storing, management, accounts, etc., and are useful as careers guides for recruitment in schools and colleges.

Educational Productions Ltd., East Ardsley, Wakefield, Yorkshire.





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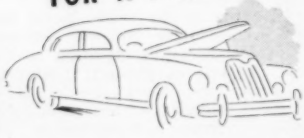

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Summary of Official Publications

GENERAL

Choice of Careers, New Series No. 9. Dressmaking and Millinery. H.M.S.O. 1s. 3d.
Electrical Accidents and their Causes, 1955. Factory form No. 929. H.M.S.O. 4s.
Safety, Health and Welfare conditions in non-ferrous foundries. First report of Joint Standing Committee. H.M.S.O. 7s. 6d.
Building Apprenticeship and Training Council final report, 1956. H.M.S.O. 4s.
Supply and Training of Teachers for Technical Colleges. Report of special committee appointed by the Minister of Education. H.M.S.O. 4s.
Call-up of Men to the Forces, 1957-60. Cmnd. 175. H.M.S.O. 4d.
Public Health Service in Occupational Health. U.S. Dept. of Health, Education and Welfare. Sold by H.M.S.O. 1s. 9d.

STATUTORY INSTRUMENTS

No. 731. The Wages Regulation (Retail Bespoke Tailoring) (Scotland) (Amendment) Order, 1957. Dated April 25, 1957, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). H.M.S.O. 3d. Increases statutory minimum remuneration payable to workers in the above industry. Effective from May 8, 1957.
No. 732. The Wages Regulation (Sack and Bag) Order, 1957. Dated April 25, 1957, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). H.M.S.O. 4d. Sets out statutory minimum remuneration payable to workers in the above industry in substitution for previous Orders. Effective from May 13, 1957.
No. 738. The Wages Regulation (Retail Drapery, Outfitting and Footwear) Order, 1957. Dated April 26, 1957, made by the Minister of Labour and National Service under section 10 of the Wages Councils Act, 1945(a). H.M.S.O. 10d. Sets out statutory minimum remuneration and holidays allowed to workers in substitution for previous Orders. Effective from May 20, 1957.
No. 749. The Wages Regulation (Road Haulage) Order, 1957. Dated April 29, 1957, made by the Minister of Labour and National Service under section 10 of the Wages Councils Act, 1945(a). H.M.S.O. 1s. 3d. Sets out statutory minimum remuneration payable and holidays allowed in substitution for previous Orders. Effective from May 20, 1957.
No. 762. The Wages Regulation (Brush and Broom) (Amendment) Order, 1957. Dated April 30, 1957, made by the Minister of Labour and National Service under section 10 of the Wages Councils, Act, 1945(a). H.M.S.O. 4d. Increases statutory minimum remuneration payable as fixed by previous Orders. Effective from May 15, 1957.
No. 763. The Wages Regulation (Brush and Broom) (Holidays) Order, 1957. Dated April 30, 1957, made by the Minister of Labour and National Service under section 10 of the Wages Councils, Act, 1945(a). H.M.S.O. 5d. Sets out holidays and holiday remuneration payable to workers in substitution for previous Orders. Effective from May 15, 1957.
No. 766. The Clean Air Council Order, 1957. Dated May 2, 1957, made by the Minister of Housing and Local Government under subsection (2) of section 23 of the Clean Air Act, 1956(a). H.M.S.O. 3d. Makes provision for the constitution and procedure of the above Council. Effective from May 8, 1957.
No. 774. The Wages Regulation (Retail Bread and Flour Confectionery) (England and Wales) (Amendment) Order, 1957. Dated May 2, 1957, made by the Minister of Labour and National Service under section 10 of the Wages Councils Act, 1945(a). H.M.S.O. 4d. Increases statutory minimum remuneration fixed by previous Orders. Effective from May 27, 1957
No. 775. The Wages Regulation (Retail Furnishing and Allied Trades) (Amendment) Order, 1957. Dated May 2, 1957, made by the Minister of Labour and National Service under section 10 of the Wages Councils Act, 1945(a). H.M.S.O. 3d. Increases statutory minimum remuneration and provides for reduction of accrued holiday remuneration payable to a worker on termination of his employment in specified circumstances. Effective from May 27, 1957.
No. 818. The Wages Regulation (Retail Food) (Scotland) Order, 1957. Dated May 10, 1957, made by the Minister of Labour and National Service under section 10 of the Wages Councils Act, 1945(a). H.M.S.O. 9d. Sets out statutory minimum remuneration payable and holidays allowed to workers in substitution for previous Order. Effective from June 3, 1957.
No. 824. The Wages Regulation (Retail Bread and Flour Confectionery) (Scotland) Order, 1957. Dated May 13, 1957, made by the Minister of Labour and National Service under section 10 of the Wages Councils Act, 1945(a). H.M.S.O. 6d. Sets out statutory minimum remuneration payable and holidays allowed to workers in substitution for previous Order. Effective from June 3, 1957.
No. 870. The Wages Regulation (Baking) (Scotland) Order, 1957. Dated May 17, 1957, made by the Minister of Labour and National Service under section 10 of the Wages Councils Act, 1945(a). H.M.S.O. 9d. Sets out statutory minimum remuneration payable and holidays allowed to workers in substitution for previous Orders. Effective from June 3, 1957.

Management Diary for July

BACIE
3 **Festival Hall, London.** The importance to industry and commerce of advance planning for the increased numbers of school-leavers over the next ten years. Conference for directors.

INDUSTRIAL CATERING ASSOCIATION
9 **Birmingham branch.** Demonstration of nylon garments.

INSTITUTE OF PERSONNEL MANAGEMENT
5-7 **Cambridge.** Joint Ministry of Labour conference.

NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY
1-5 5-day course in selection methods, part II.
15-19 5-day course in selection methods, part III.

URCHFONT MANOR
20-25 Thinking, speaking and writing. Residential course in committee work and report compiling.

EXHIBITIONS, Etc.
1-6 **Helsinki.** 12th International Congress on Occupational Health.
10-20 **Olympia, London.** British Plastics Exhibition.
15-20 **Manchester.** 10th Building Plant Exhibition.

How to Choose a Consultant

IN accordance with their published code of professional behaviour, management consultant firms do not advertise. So any firm or public body wishing to benefit from their experience faces the problem of choice—how to pick a consultant, and what kind to choose. As a general guide to the "how and why" of the problem the Management Consultants Association has issued a leaflet called "How to Choose a Consultant". This can be obtained free from the Association's Secretary, 4 London Wall Buildings, E.C.2.

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The ABIX Cycle Holder illustrated here has been designed for use in positions where our well known and popular types of cycle stand might not be convenient.
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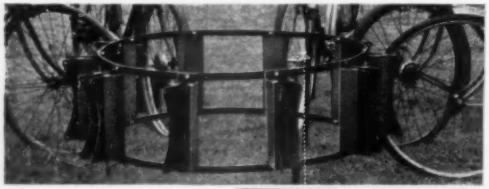
The front tyre is merely pushed between the spring actuated jaws of the holder when it becomes securely held and the cycle retains its normal upright position. The wheel does not come into contact with the holder and risk of damage to cycle, person, or clothing is obviated. If safety measures are thought desirable a lock and chain may be readily affixed by threading chain through holes provided in the jaws.



▲ ABIX Cycle Holders fitted on a frame of circular form some 3 ft. in dia. 10 cycles may be accommodated in this way with ample clearance between.
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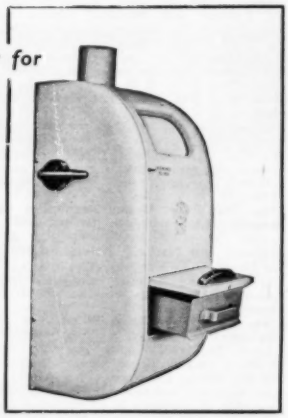

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Efficiency Aids

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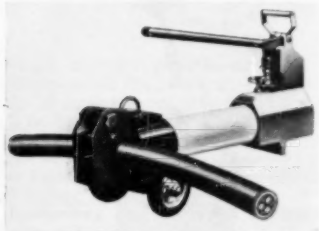
INDEPENDENT of all external power supplies, the "Carricut" is an entirely new portable self-powered hydraulic shear, unique in design and performance. It can be taken single-handed by one man to the work and

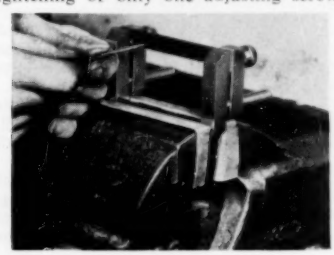


will cut steel or iron rods, wire ropes and cables and chains quickly and cleanly, without flash, by arm-power alone. It is especially suitable for mines, ships, constructional and electrical engineering, and numerous other industries. There are five models available at the moment, the largest—available with or without remote control—cuts wire ropes of up to 2 in. diameter and electric cables up to 3¼ in. diameter.

Copelaw Ltd., Mowden Hall, Darlington, Co. Durham.

RAPID ACTION CLAMP

THIS clamp can be opened from "completely" closed in five seconds and has a self-aligning jaw pad to 5 deg. off parallel or taper. The bottom jaw has a ground base for standing on the slide of the machining table. The top jaw is automatically firmly held in position on the quick tightening of only one adjusting screw and has a sliding fit on the spindle. The bottom jaw has a driven fit. The self-aligning jaw pad enables the clamp to be used freely because it will not mark either soft ferrous or non-ferrous material or damage smooth surfaces.



Winston Metal Fabrications Ltd., Alpha Road, Teddington, Middlesex.

SIMPLE AND SPEEDY

TWO new Swiss tools being distributed in this country are the *Lesto* electric screwdriver (Type GEF 3) and an electric foam rubber cutter (GEQ 2).

The screwdriver can work clockwise or anti-clockwise, the direction being changed by a switch at the top of the tool. It is fitted with an adjustable clutch which allows the torque to be set to suit the size of screw or nut being used. Even an unskilled operator can alter this torque in a matter of seconds by slipping off the head and turning a spring-loaded nut. Spring guides are available for British-size screwing bits. These help the location of the screwdriver on the work and prevent the tool slipping off the head of the screw.

The foam rubber cutter consists basically of a pair of fast reciprocating saw blades travelling on the same plane but in opposite directions. They are held in place by a slotted guide which secures the two blades flat against each other at just the right pressure. The multi-scissor movement, as it can be called, is very fast indeed and a 10-in. thickness of foam rubber can be negotiated if a suitable set of blades are inserted.

Trend Industrial Equipment Ltd., 5 The Ridgeway, Stanmore, Middlesex.

Handling

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THIS new barrel carrying trailer has been designed to transport two 40- or 54-gallon barrels, a particular feature being that it can be loaded and unloaded by one man.

It is of relatively light weight with chassis and cradles (quickly detachable) of all-welded construction. The suspension is by trailing arms carried on torsional rubber spring units. Standard fittings include a 2-cwt. roller chain

B. DIXON-BATE LTD., Chester

hoist, cradle lifting lever, barrel lashing straps, type "D" sliding stand, number plate and regulation trailer plate.

Additional equipment includes a quickly detachable body of wood construction on an M.S. angle frame to fit in place of the cradles. (The body is designed to carry 18 5-gallon oil drums of 11¼ in. diameter or 9 10-gallon drums of 14½ in. diameter). There are also a jockey wheel to fit in place of stand, barrel up-ending lever for handling barrels off the trailer and a hand-operated pump to fit in the side bung hole.

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STILLAGES with an under clearance of more than 21 in. can be handled by a new hand lift truck. It has a capacity of 2,500 lb. This truck is mechanical in operation. The platform is elevated by one downward stroke of the handle and locked in position by depressing a pedal. A second pedal is used to permit the load to be lowered—against a special hydraulic load check which protects operator, truck and load from damage. The truck handle is "balanced" to relieve the operator of its weight.

The truck can be supplied with different sizes of platform, and with

wheels fitted with roller bearings instead of ball bearings, if required. Wheels are cast iron or rubber tyred according to the customer's preference.

Other models of this truck range in size between 36 in. and 84 in. long, with platform widths of either 17½ in. or 26½ in. Platform heights vary between 6 in. and 11 in.

Yale & Towne Manufacturing Company, British Materials Handling Division, Wednesfield, Wolverhampton, Staffordshire.

Packaging

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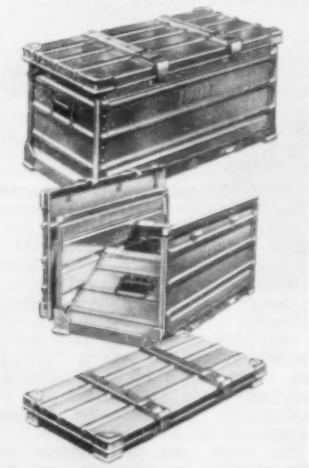
UNEXPENDABLE metal containers that are collapsible, pilfer proof and non-corrosive, are now available for the safe transit of many types of goods, by road, rail or air. *Tracon* containers are made of aluminium alloy specially toughened, with hardened steel corners to withstand years of rough handling. They save space in storage and on the return journey, since five of them, when collapsed, can be stored in the space required by one wooden container of comparable size. The containers are in one piece, a unique feature that precludes the possibility of any part being mislaid.



To assemble the container for packing, the operator raises the sides and lowers the retaining clips—an operation taking about 10 seconds. The lid clips shut and can be locked or sealed. *Tracons* can be hired on favourable terms or purchased outright.

Tracons Ltd., 5a Dean's Yard, Westminster, London, S.W.1.

Good Housekeeping

CLEANS AND PROTECTS

WHAT the makers describe as a "really economical rust remover and inhibitor" is now on the market. When applied to prepared surfaces its chemical action penetrates into the pits of the metal, destroys the rust and prevents further corrosion. It is also said to form a bonding medium for paints and other finishes. Metals can be pre-treated by spraying, dipping or brushing. Prices are as follows: 1 gallon, £1 2s. 6d.; 5-gallon drum, £4 17s. 6d.; 10-gallon drum (drums extra), £8 15s.

British Universal E.M.E. Ltd., 36 Victoria St., London, S.W.1.

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THE *Pateena* process gives ordinary materials (wood, metal, hardboard, all kinds of composition woods, panelling, etc.) a completely new and transformed appearance. Moreover, say the manufacturers, the new texture is tough and hardwearing and is ideal for such articles as storage containers and instrument cases which are sent to tropical climates where heat, humidity, insects, etc., will attack coverings or their adhesive. In ordinary usage it is resistant to knocks and abrasions, will not easily chip or flake and is cleaned and washed with minimum trouble.

Achieved without costly equipment or involved technique, the texturing can be undertaken in almost any spray shop; no special skill is needed.

No charge is made, no licence or concessions, to users of the process, and technical "know how" is available free of charge. Full instruction and advice on new applications is given in collaboration with the user's personnel.

Paripan Ltd., 1 Sherwood Street, Piccadilly Circus, London, W.1.

Safety

FOR METALLIC FIRES

THIS new, special-purpose fire extinguisher is now being marketed to meet the difficult problems associated with fire outbreaks involving metals like sodium and calcium, or magnesium and aluminium in the form of powder or swarf.

The new extinguisher is charged with 25 lb. of dry chemical powder which is discharged under pressure provided by a cartridge of CO_2 gas. The dry chemical powder is applied to the burning metal by means of a specially designed applicator comprising a long, tubular metal extension terminating in a cone-shaped spreader. The applicator ensures that the discharge of dry chemical powder is delivered lightly on to the fire to prevent the danger of scattering associated with this class of fire.

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control valve enables the flow of dry chemical powder to be shut off at will and to be used to its fullest advantage.

The Pyrene Company Limited, 9 Grosvenor Gardens, London, S.W.1.

Lighting

TO CUT LIGHTING COSTS

THIS device is designed to reduce electric light bills in larger buildings such as factories, workshops, office blocks, schools and government buildings. Its function is to record daylight intensity and to control the light needed for work within the building.

Easy to install, the *Savelite* consists of a light-sensitive photo-electric cell, built into a metal tube little bigger than a fountain pen, and a control unit.

The *Savelite* operates on a voltage of 200/250 and has a 10-watt rating. Plugged into any convenient power point, the photo-electric cell can be

fitted to face the sky through the window of a building and set to record any given level of daylight intensity. Two wires connect the cell to the control unit.

When daylight is sufficient for easy working within the building an indicator light is extinguished and a 15-second bell or hooter alarm is set off. It gives a further audible warning when daylight deteriorates. The *Savelite* can also be wired to switch all unnecessary lighting on or off automatically.

Radiovisor Parent Ltd., Stanhope Works, High Path, London, S.W.19.

Welfare

SHORT WAVE STERILISER

ON the market now is an air steriliser comprising a U-shaped metal tube and base, with an over-all length of 3 ft. 9 in. Inside the tube a silent fan motor draws air into one end over germicidal tubes emitting high intensity short waves. The radiation thus produced destroys the cell structure of micro organisms and the sterilised air is delivered back into the room from the other end of the unit. A length of flex is provided to attach to any plug or bayonet type fitting for the ordinary domestic-type light point. The unit uses only 45 watts and is completely automatic.

Alfred Hunt Ltd., P.O. Box No. 93, Leicester.

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MANUFACTURED in square tube of American design but made in Britain, these chairs are available in a choice of moquette or plastic leathercloth upholsteries in different colours. They have been designed to merge with the modern office.

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Sankey Sheldon Ltd., 46 Cannon Street, London, E.C.4.

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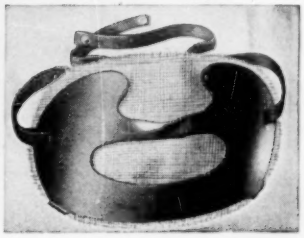

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